THE JOURNAL OF POLITICAL ECONOMY

Volume LX FEBRUARY 1952 Number 1

Hicks and the Real Cycle — *Arthur F. Burns* — 1

The "Welfare" Effects of an Income Tax and an Excise Tax — *Milton Friedman* — 25

Isaac Gervaise on the International Mechanism of Adjustment — *J. M. Letiche* — 34

A Functional Criterion for Wage Appraisal — *Harry Henig* — 44

The American Business Cycle of 1879–85 — *Rendigs Fels* — 60

Book Reviews (See inside front cover) — 76

Books Received — 93

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.

February 1952 Volume LX, No. 1

THE JOURNAL OF POLITICAL ECONOMY

EDITED BY EARL J. HAMILTON

IN CO-OPERATION WITH THE OTHER MEMBERS OF THE ECONOMICS DEPARTMENT OF THE UNIVERSITY OF CHICAGO

BOOK REVIEWS:

Albert G. Hart, *Defense without Inflation* — Lorie Tarshis 76
Abba P. Lerner, *Economics of Employment* — O. H. Brownlee 77
Redvers Opie and Associates, *The Search for Peace Settlements* — M. Bronfenbrenner 78
Adam B. Ulam, *Philosophical Foundations of English Socialism* — Paul M. Sweezy 79
Richard Schlatter, *Private Property* — Dorothy Lescohier 79
Luigi Einaudi, *Greatness and Decline of Planned Economy in the Hellenistic World* — E. Michell 80
Calvin B. Hoover and B. U. Ratchford, *Economic Resources and Policies of the South* — J. M. Buchanan 81
W. Arthur Lewis, *Economic Survey, 1919–1939* — Alexander Gerschenkron 82
Roy Harrod, *And So It Goes On: Further Thoughts on Present Mismanagement* — Donald Dewey 83
Richard Humphrey, *Georges Sorel, Prophet without Honor* — Donald Dewey 83
Violet Barbour, *Capitalism in Amsterdam in the Seventeenth Century* — William L. Letwin 84
Eduardo Arcila Farías, *Comercio entre Venezuela y México en los siglos XVII y XVIII* — C. H. Haring 85
Arthur I. Bloomfield and John P. Jensen, *Banking Reform in South Korea* — Frank M. Tamagna 86
Harry Schwartz, *Russia's Soviet Economy* — Franklyn D. Holzman 87
Willi Graf, *Der Aussenhandel zwischen marktwirtschaftlich organisierten und zentralgeleiteten Volkswirtschaften* — J. Herbert Furth 88
Wilson Record, *The Negro and the Communist Party* — Joel Seidman 89
Charles A. Myers, *Industrial Relations in Sweden: Some Comparisons with American Experience* — Leonard Sayles 90
Wallace Parks, *United States Administration of Its International Economic Affairs* — Gardner Patterson 91
Jorge Espinosa de los Reyes, *Relaciones económicas entre México y Estados Unidos, 1870–1910* — Robyn R. Hill 92

The Journal of Political Economy is published bimonthly in February, April, June, August, October, and December by the University of Chicago at the University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. Subscriptions are by volume only. The general subscription price is $6.00 per volume; the price of a single issue is $1.50. Special Rate: $5.00 per volume to members of college or university faculties of economics or business; $3.00 per volume to full-time graduate students in economics or business. Orders for service of less than a full volume will be charged at the single-issue rate. ¶ Postage is prepaid by the publishers on all orders from the United States and its possessions. No extra charge is made for countries in the Pan American Postal Union. ¶ Postage is charged extra as follows: for Canada and Newfoundland, 20 cents per volume, 5 cents per issue; for all other countries in the Postal Union, 50 cents per volume, 12 cents per issue. Subscriptions are payable in advance. ¶ Please make all remittances payable to The University of Chicago Press in United States currency or its equivalent by postal or express money orders or bank drafts.

The following is an authorized agent:

For the British Empire, except North America and Australasia: The Cambridge University Press, Bentley House, 200 Euston Road, London, N.W. 1, England. Prices of subscriptions and of single copies may be had on application.

Claims for missing numbers should be made within the month following the regular month of publication. The publishers expect to supply missing numbers free only when losses have been sustained in transit and when the reserve stock will permit.

Business correspondence should be addressed to The University of Chicago Press, Chicago 37, Ill.

Communications for the editors and manuscripts should be addressed to the Editor of The Journal of Political Economy, 1126 E. 59th Street, Chicago 37, Ill.

The articles in this journal are indexed in the *Readers' Guide to Periodical Literature*, New York, New York.

Applications for permission to quote from this journal should be addressed to The University of Chicago Press and will be freely granted.

Microfilms of this journal are now available to regular subscribers only and may be obtained at the end of the volume year. Orders and inquiries should be addressed to University Microfilms, 313 North First Street, Ann Arbor, Michigan.

Notice to subscribers: If you change your address, please notify us and your local postmaster immediately.

Entered as second-class matter March 25, 1896, at the post office at Chicago, Illinois, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in United States Postal Act of October 3, 1917, Section 1103, amended February 28, 1925, authorized July 14, 1918.

[printed in U.S.A.]

THE JOURNAL OF
POLITICAL ECONOMY

Volume LX FEBRUARY 1952 Number 1

HICKS AND THE REAL CYCLE

ARTHUR F. BURNS
Columbia University

THE theory of business cycles has been in a peculiarly unsettled position since Keynes's *General Theory* first appeared. The older students of the subject were, as a rule, concerned with the fluctuations in business activity at large—not with the movements of a particular economic factor such as production, employment, prices, or incomes. Keynes shifted the emphasis violently in two directions. First, he made the level of employment his major interest. Second, he concentrated on the factors that tend to make this level at one time higher or lower than at another. Thus the fundamental unit of analysis became the "volume of employment at any time" rather than "the business cycle." This shift of emphasis was well suited to the thirties, when unemployment overshadowed every other economic and political problem. Before long Keynes's theory was eagerly embraced and ingeniously simplified. Not only business-cycle theory but the theory of value itself fell for a time by the wayside. For if Keynes was able to explain what determines the volume of employment without troubling much about the cost-price structure, some of his followers could do so without troubling about it at all.

But economic life does not stand still, and every change in its underlying conditions sooner or later stimulates fresh economic thinking. Under the impact of war and inflation during the forties, theoretical interest has slowly re-emerged in the behavior of prices, production, efficiency, and the business cycle. Hicks's recent book on the "trade cycle" is a significant expression of renewed concern with the cycle, in contrast to the level of employment.[1] A fundamental task of modern economics, as Hicks sees it, is to pass from the Keynesian theory of employment to a theory of business cycles. And that is what he has set out to do. "It is . . . a mistake," he tells us, "to begin one's investigation with a definition of the kind of fluctuation which one is going to regard as basic—deciding whether one is going to regard the cycle as being fundamentally a fluctuation in employment, or output, or prices, or interest rates, or money supplies. It is better to allow the definition

[1] J. R. Hicks, *A Contribution to the Theory of the Trade Cycle* (Oxford: Clarendon Press, 1950).

to emerge as the theory develops" (p. 2). This suggests that the interdependence of the money supply, costs, prices, profits, income disbursements, consumer spending, investment, employment, and other economic factors will be fully displayed in unfolding the drama of the cycle. And if this suggestion carries a promise of useful achievement, so too does Hicks's awareness of the hard road that must be traveled in building knowledge. For while he believes he has found the "main part of the answer" to the puzzle of business cycles, he candidly describes his work as "little more than an untested hypothesis" which will need to be tested "against the facts" before it can be accepted as a basis for prescriptions of policy (p. v).

I

The literature on business cycles is rich in formal models. That is hardly surprising in view of the widespread tendency to theorize about the cycle with little regard to the facts of experience. Any competent logician, especially if he has the command of mathematics, can select a set of simplified conditions and deduce a cyclical path from what he has assumed. Hicks recognizes that such a theory cannot be a "true theory" unless one can show that the causes it isolates "are actually those which are the most important in practice" (p. 83). His objective is not a formal model of the cycle but one that will enable us to make sense of our concrete experiences. Hence, as he puts it, "it is . . . wise to begin by attempting to explain what has been experienced; anything else must be a matter of prophecy, or at any rate, extrapolation" (p. 8).

But what precisely *are* the business cycles of experience in which Hicks's interest centers? And to what features or aspects of that experience is his explanation directed? Early in his book (p. 2) he notes that "the economic history of the last 150 years organizes itself . . . easily into a series of 7- to 10-year cycles." On page 57 he states that a 3 per cent annual "trend rate of growth . . . seems to have been characteristic of the nineteenth century." On page 89 he suggests that a perfectly uniform cycle superimposed on an exponential trend "is extraordinarily like the cyclical oscillation for which we are looking"—that is, like the cycle "we find in reality" during the past "two centuries." On page 2 he records that business cycles "differ among themselves quite considerably; but there can surely be no doubt of their family likeness." On pages 108–9, on the other hand, he remarks that "certainly the cycles of reality do not repeat each other; they have, at the most, a family likeness." On page 3 he speaks of the "underlying repetitiveness" of the business cycle; and on page 123 he suggests that the cycle is marked by a "fundamental regularity" on which "superficial irregularities" are "superimposed."

These remarks, and others like them, fail to convey a clear idea of the economic nature or the historical range or the geographic scope of the actual phenomenon or phenomena that Hicks is trying to explain. Nor is it possible to infer with complete confidence the temporal or spatial boundaries of the alleged cycles from the institutions analyzed by Hicks, since his theory moves on an extremely abstract level. Hicks treats the real output of any period as uniquely determined, except for a portion constituting "autonomous investment," by the outputs of past periods. This, in a sentence, is the essence of his theory of output; and his theory of the business

cycle is simply a theory of the cycle in output, despite the wider scope suggested by the passage I have previously quoted. Now a fixed link between past and current outputs, if it exists at all, is no more a property of the economy of modern England than of the modern Ukraine (or, for that matter, the economy of Adam and Eve after they had strayed from virtue), and it is not entirely clear that Hicks would be averse to lumping them. To justify his assumption of a closed economy, he observes that "after all, the world as a whole is a closed economy; and the processes which the real theory studies are not made different in character by the fact that they extend across national frontiers" (p. 155). But if Hicks's theoretical arm really aims to stretch across the world, I am not at all sure, judging from some long-range production indexes I have seen, whether it could reach any actual cycle in world output. One need not go back very far to find agriculture dominant in world economy and its fluctuations in different areas offsetting one another in the earthly aggregate. Such offsetting is considerable even in industrial output and down to the current day; though I have no doubt that an occasional catastrophe, like that of the 1930's, leaves its imprint on world output.

My main purpose in making these realistic observations is to bring out the abstract character and limited objective of Hicks's inquiry. Unless that is understood, a fair appraisal of his work is impossible. It is no part of Hicks's problem whether business cycles are five or ten or twenty years long, whether the amplitude of the cycles is large or small, whether the cycles are of national or international scope, whether they extend over all or only a few of the economic activities of a nation. We should not expect him to explain why business cycles in the United States have been shorter than in England or more violent than in Germany, or why the United States and England experienced a cyclical downswing in 1920–21 and 1937–38 while Germany did not, or why the amplitude of a cyclical expansion in aggregate activity is rather closely correlated with the amplitude of the preceding but not of the following contraction, or why stock financing usually moves with the cycle in aggregate activity while bond financing moves contracyclically, or why the ratio of the change in inventory investment to the change in gross investment during a cyclical phase tends to vary inversely with the length of the phase—or to explain any of a hundred other features of the business cycles of experience. The essential object of Hicks's inquiry is the cycle in output rather than the cycle in business activity as a whole; and this object is sufficiently defined for his purpose by the generally familiar fact that the aggregate production of industrialized nations has fluctuated along a rising trend and that these fluctuations do not look at all like random movements.

To explain the fluctuations in real output (or income), Hicks makes effective use of the principles of the "multiplier" and the "accelerator," as these terms have come to be used in recent literature. The "multiplier mechanism" shapes the movements of consumption in his model, while the "accelerator" shapes the movements of investment—except for a certain autonomous part. Hence "the theory of the multiplier and the theory of the accelerator are the two sides of the theory of fluctuations, just as the theory of demand and the theory of supply are the two sides of the theory

of value" (p. 38). As these remarks may suggest, Hicks's theory has severe modern lines, runs in terms of very broad aggregates, stresses technical connections between them, and reaches its goal with only incidental reference to costs, prices, profits, or human motivation. To evaluate Hicks's ingenious theoretical construction, it is necessary to examine with some care its two main pillars—the theory of the multiplier and the acceleration principle.

II

The theory of the multiplier goes back to Kahn and Keynes. In earlier economic literature, we do not find any explicit "consumption function," or a "marginal propensity to consume" of less than unity, or an "investment multiplier" in the guise of a reciprocal of "the marginal propensity to save." All these are innovations of modern theory, principally associated with the name of Keynes. The older economists were, of course, more or less aware of the processes which the theory of the multiplier condenses into a formula. They realized that an increase in investment would tend to increase the flow of incomes, that the spending of all or a part of the newly received income by the public would tend to generate new income, and that investment therefore has a multiplier effect on consumption and national income. They did not, however, attach mechanically the dollars spent on "consumption" to the prior receipt of income any more than they attached the dollars spent on "investment" to any category of prior receipts. They did not think of the multiplier as a determinate number which summed up the effects of successive respendings of income, or which defined a new equilibrium via a change in investment. Confronted with the modern theory, they would have acknowledged the processes telescoped in the multiplier, though they would have expressed skepticism concerning the stability of the consumption function and concerning a marginal propensity to consume that is always less than unity. This, in any case—and here I can be definite—was the position of Mitchell and Schumpeter. Nor do I suppose that Keynes would have seriously disagreed with them in the precise context of the theory of the cycle rather than of the general level of employment. It is well to recall that in his famous letter to Elizabeth Gilboy he explained that the assumption of a marginal propensity to consume of less than unity was not a necessary premise of his theory of employment; for, if the assumption were not valid, it would merely follow that the economic system is inherently unstable.[2] And, of course, Keynes explained in *The General Theory* that consumption was a function of several variables besides income (chap. viii), and actually developed some reasons (chap. xxii, "Notes on the Trade Cycle") why the propensity to consume out of a given income would shift in the course of a business cycle.

But the most striking and novel part of Keynes's work was the formal theory of underemployment equilibrium, and here he permitted himself to treat consumption as a numerically unique and invariant implicate of income. It was, of course, this feature of Keynes's work that caught the fancy of economists. For, if the step was legitimate, economics was on the threshold of becoming an engineering science. In the years immediately following publication of *The General Theory* the belief was widely held

[2] *Quarterly Journal of Economics*, LIII (August, 1939), 634.

that, once the desired level of income or employment was specified, the economist could tell to a good approximation what amount of investment—or of some practical equivalent—would bring that income or employment into being. But, if the economist was to function as an engineer, he needed good empirical estimates of the consumption function. Thus under Keynes's influence extensive research on the relation between consumer spending and national income got under way. At first the results looked very promising, for the correlation between consumption and income turned out to be remarkably high. As the research moved forward, it appeared however that the computed value of the marginal propensity to consume was sensitive to comparatively slight shifts in the character of the underlying data, to slight shifts in the period covered by the statistics, and to shifts from annual data to quarterly or vice versa. Not only that, but it became increasingly plain that the critical matter for purposes of control on Keynesian lines was the savings function rather than the consumption function, and that the correlation between savings and income was decidedly lower than between consumption and income. Under the pressure of empirical studies, faith in an early engineering science of economics perceptibly weakened. Numerous investigators left Keynes's precise formulations behind them, and immersed themselves in exploring the facts of consumption and disentangling the numerous forces that influence the spending of consumers and the saving of individuals and business firms.

But, while many took the path of empirical inquiry, others devoted themselves to refining Keynes's consumption function and elaborating its theoretical implications. Hicks's contribution clearly belongs in this compartment. His consumption function links consumption exclusively to aggregate income as does Keynes's, but the relation is not the same. Keynes's consumption and income are expressed in a wage unit, while Hicks's are expressed in an output unit. Keynes's income is gross of depreciation allowances, while Hicks's is net. Keynes's income is current income, while Hicks's is a set of past and current incomes. The first of Hicks's modifications is capable of leading to analysis of productivity as well as employment changes, and Hicks rightly attaches importance to this. The second modification seems less fortunate from the viewpoint of realistic analysis; for in the Keynesian version a change in gross investment will tend to generate a change in consumption and net income even if net investment is constant, while this cannot happen in Hicks's version. However, both the one modification and the other have merely formal consequences within the range of Hicks's inquiry. What does make a substantial difference is the consumption lag. At this point Hicks's work links up with the empirical branch of post-Keynesian investigation—as represented, for example, by the researches of Ezekiel, Duesenberry, Modigliani, and Ruth Mack, who have stressed the influence of past income on current consumption.[3] It appears, therefore, that there is good em-

[3] M. Ezekiel, "Statistical Investigations of Saving, Consumption, and Investment," *American Economic Review*, Vol. XXXII (March, 1942); F. Modigliani, "Fluctuations in the Savings-Income Ratio," in Vol. XI of *Studies in Income and Wealth* by the Conference on Research in Income and Wealth (New York: National Bureau of Economic Research, 1949); Ruth Mack, "The Direction of Change in Income and the Consumption Function," *Review of Economics and Statistics*, Vol. XXX (November, 1948); J. S. Duesenberry, *Income, Saving and the Theory of Consumer Behavior* (Cambridge: Harvard University Press, 1949).

pirical justification for Hicks's twist to the consumption function; and it also opens the road to process analysis—a road that every student of business cycles must sooner or later follow.

To show how the "multiplier mechanism" shapes the movements of consumption, it is necessary to have in mind some rule about investment. Hicks explores whole families of such rules. Thus he allows investment to shift from one steady level to another, and shows how under various assumptions about the consumption lag—consumption and income will adjust to the investment path. Consider the following elementary case. Consumption in any "period" is, say, nine-tenths of the income (or output) of the preceding period; in period 0 current output is in "equilibrium" with investment at 5 and consumption at 45; then, for some reason, investment in period 1 shifts to 10, and this level of investment is maintained in later periods. It follows, as a matter of arithmetic, that consumption in periods 1, 2, 3, etc., will be 45, 49.5, 53.55, etc., converging to a value of 90; that the corresponding series for output will be 55, 59.5, 63.55, etc., converging to a value of 100; that the increase in consumption ultimately becomes 45, or nine times as much as the increase of investment, while the increase in output ultimately becomes 50, or ten times as much as the increase of investment. This, of course, is the Kahn theory of the multiplier; but Hicks generalizes it to cover consumption lags of any degree of complexity. Besides, he shows with exemplary skill how consumption and income will respond when investment follows a more complicated path—as when it expands progressively, contracts progressively, or undergoes periodic fluctuations. The result is a very elegant generalization of the multiplier theory.

Hicks's lucid prose enables even the nonmathematical reader to see that, as he moves from one situation to the next, the multiplier mechanism keeps ticking away without pause or misadventure. It always includes two "parts"—a rigid consumption function, some rule about investment, and nothing else. It is well to stop and examine each part because in Hicks's theory the multiplier mechanism is not a mere tool of analysis but the whole—or at least the preponderant part—of what needs to be understood about the economics of consumption in the cycle of experience. With respect to the first part of the mechanism, it may be asked what basis Hicks has for treating consumer spending as if it were a purely passive response to past and current income. Is it proper, to be more specific, to ignore the influence of changes in income distribution on consumer spending? Hicks disposes of this question by remarking (p. 36) that his consumption lag already allows for a changing income distribution, but he does not supply any reasons to bolster the naked assertion. Again, is it proper to ignore the vicissitudes of corporate and other nonpersonal saving in formulating the relation of consumer spending to total national income? Hicks apparently feels that the consumption lag disposes in principle also of this complication, the reason being that "undistributed profits are in principle temporary" (p. 22). Surely, when he writes in this vein, Hicks cannot be thinking of the financial processes whereby small firms in this country or England have grown large. And what of the other factors that have been troubling empirical investigators of the consumption function? How and in what degree is consumption influenced by movements of the price level? By changes in relative prices? By capital gains or losses? By the stock of liquid

assets or other accumulation from past effort? By the terms on which consumer credit is extended? By expectations concerning income or price changes in the near future? By the rate at which new families are being formed and other demographic variables? If national output equals the sum of consumption and investment, are government expenditures on currently produced commodities and services to be split in some fashion between consumption and investment? If so, is consumption still to be expressed as a simple function of past and current income? Hicks does not comment on these issues. I assume his position is that, while they may need to be considered in examining long periods, they can be safely ignored over the period of a business cycle. But, if that were the case, one should be able to make a good short-run forecast of savings from a consumption function of Hicks's type. To my knowledge the statistical literature on the consumption function, which already includes some experiments on Hicks's lines, does not justify a strong faith in that possibility.[4] I find it difficult to suppress the feeling that Hicks's theory of consumption is quite inadequate and that this part of his multiplier mechanism limps as a consequence.

But what of the second part of the mechanism? This, it will be recalled, is the rule about investment; and here the basic question is what economic forces can be relied on to maintain any particular rule and how they do so. Surely, some theory of production is implicit in the multiplier mechanism, but Hicks does not tell what it might be. To go back to our preceding illustration, what are the economic incentives or pressures that will keep real investment at the assumed figure of 10? Or, to put the same question another way, how is it possible for real output to exceed real consumption, period after period, by the exact figure of 10? It seems clear that the multiplier theory requires that an increase or decrease in demand during any period be precisely matched by an adjustment of supply; but how is this adjustment achieved? Are we to assume that every firm has a perfectly elastic supply schedule until the "ceiling" to output is reached? That monopoly is absent or that its presence can make no difference to the process of adjusting supply to demand? That no businessman ever makes a mistake or that errors and other obstacles to proper adjustment cancel out? Until the theory of production secreted in the multiplier mechanism is made explicit, there is bound to be a lingering suspicion that the mechanism is merely a stimulating suggestion of how the arithmetic of certain economic quantities may work out. Unless I have missed something vital in Hicks's theory of the multiplier, that is the point at which he leaves it. To be sure, in his model of the cycle the rule about investment flows from a theory of the investment process; but, as we shall see, this theory is confined to the demand side of investment and takes for granted conditions of supply except for the recognition of a "ceiling" to output and a "floor" to investment.

[4] A careful statistical analysis of how well various consumption and savings functions have fared as forecasting devices has been made by Robert E. Ferber, "A Study in Aggregate Consumption Functions" (unpublished University of Chicago dissertation, 1951).

III

The theory of the multiplier is "only a half-theory" (p. 38) in Hicks's system. The other and accented half is the acceleration principle. So strong is this emphasis that at times the multiplier seems to fade out. For example, we read that "the multiplier theory does

in itself offer no shadow of an explanation why fluctuations occur" (p. 31)—which is true only if we treat consumption as a rigid function of income and interpret fluctuations to mean reversals in direction. Again, we read that, when "the multiplier mechanism . . . is analyzed completely," it "proves . . . to be a stabilizing influence; its general tendency is to diminish the propensity to fluctuate" (p. 37). This suggests that, if consumption were entirely independent of income, the economy would undergo larger absolute fluctuations than it does in fact; but Hicks cannot mean that. Probably all that he wishes to convey is, first, that the rise or fall in consumption resulting from the multiplier mechanism is not so large in the presence of a consumption lag as it would be in its absence; second, that "the fluctuations in consumption . . . can at the most only reflect *initiating* fluctuations in investment" (p. 37; my italics). But how do the fluctuations in investment arise? Hicks's answer is that they are in part autonomous but primarily a response to the rate of change in total output. Hence the big half of the theory of the cycle is the acceleration principle.

It is necessary to pin down the meaning of the acceleration principle, for shades of difference in its interpretation can make a good deal of difference in one's judgment of what the principle contributes to the explanation of business cycles. Everyone appreciates that, if the output of a firm grows substantially, it may find that its "fixed plant" is cramped and that beyond a certain point production cannot increase at all unless the plant is expanded. It is equally clear that, if production is sharply reduced on account of a drop in sales, the firm will have "surplus capacity" on its hands and that there will be no immediate technical reason for adding to its plant. If the acceleration principle meant no more than this, there would be no reason to doubt its validity. Everyone could agree that it has some bearing on investment and that no explanation of the cycle which ignored it could possibly be complete.

Doubt enters the moment the acceleration principle becomes more imperial than this, and there has been a certain tendency on the part of economic theorists to make it both imperial and mechanical by postulating a fixed ratio between the stock of real capital and current real output. On this interpretation the curve of net investment[5] becomes, except for a multiplicative factor ("the investment coefficient") and a possible lag, a replica of the curve of the rate of change in output. Thus put, the acceleration principle is still capable of interpreting broad secular changes in real investment, especially when industrial techniques change slightly and gradually. For while the durability of capital goods—such as factories, office buildings, machinery, and other equipment—may make their stock inelastic on the side of decrease, and the heavy cost of additions may make the stock inelastic on the side of increase, these are limitations of the short run. Let enough time pass and a plant that is poorly adapted to the average run of output will shrink or grow; so that, in the absence of a great change in technology, the stock of capital will tend to correspond, more or less, to the *trend* of output.

The question from the viewpoint of the business cycle is whether the adjustment of capital to output can be at all effective in the short run. Here we bump on two critical facts. First, the rate of

[5] I assume here, for simplicity, that replacement equals depreciation.

utilization of industrial capacity, and therefore the extent of surplus capacity, is itself a cyclical phenomenon. Second, cyclical expansions or contractions in over-all economic activity rarely last longer than two or three years. Over periods of this brief duration an improvement in the ratio of output to "capacity" cannot well come from a diminution of capital; it must come principally from an increase of output. New additions to effective capacity do not cease when a cyclical expansion of output stops. On the contrary, they are apt to continue increasing, since some time must elapse before investment expenditures materialize in installations. To be sure, the existing stock of capital deteriorates through use and obsolescence, but this is a slow process and not one to be counted on to offset the new installations. As an empirical matter, we know that the stock of capital in the United States, if not also in other countries, has as a rule continued to grow even in periods of depression. It would seem, therefore, that a theory which presupposes a fixed ratio of net investment in fixed capital to the rate of change in output—whether as an approximation to industrial fact or entrepreneurial design—may well miss the forces that, over the short run, dominate such investment.

Hicks is aware of this difficulty, and he attempts to meet it by immobilizing the acceleration principle over a part of the cycle. He not only recognizes, but formally incorporates into the structure of his model, "the fact that falls in output cannot induce disinvestment in the same way as rises in output induce investment" (p. 83); that is, if output shrinks, gross investment in fixed capital can at the most fall to zero, and while net investment may become negative, it can do so only to the extent of the depreciation charges. Hence, except for inventories, Hicks restricts the acceleration principle to a stretch of the cycle—the latter stages of expansion and the beginning of contraction. Over this part of the cycle the accelerator is assumed to work on the plan made familiar by the mathematical theorists; but even here Hicks attends explicitly to the factor of time. His position is that, if output increases, "investment will not take place all at once—it will be spread over a certain length of time, partly because business men will not react at once to the need for new capital goods, partly because the process of making the new capital goods itself takes time" (p. 40). Suppose that output moves from 100 in period 0 to 110 in period 1 and that this development occurs at a time when the capital of the economy is not "in excess of requirements" (p. 105). The increase in output will then induce new investment of $10x$, where x is the investment coefficient. This investment will not be made in period 1; it will come in period 2, or perhaps in 3, or perhaps partly in 2 and partly in 3, or in some other period or set of periods; in other words, the investment lag may be simple or complex.[6] But, whatever the lag, Hicks assumes it to remain unchanged over intervals relevant to the cycle, just as he assumes the investment coefficient to be constant.

The economic system that emerges from Hicks's theory is therefore governed by a fixed investment function as well as by a fixed consumption function.

[6] In Hicks's mathematical appendix current consumption depends on past outputs, not on current output; his literary exposition stresses current output as much as past outputs. In his appendix current investment depends on the change in past outputs, not on the change in current output; and (except at one point, p. 61) this is also true of his literary exposition. I therefore follow Hicks's appendix on the theory of investment and his text on the theory of consumption.

The consumption function—and hence the multiplier—is operative throughout the cycle. The investment function—and hence the accelerator—is dormant during part of the cycle. Nevertheless, the accelerator is the chief cycle-maker in Hicks's theory. The business cycle, "regarded as a periodical fluctuation in output, can be explained," he holds, "in terms of simple reactions, by entrepreneurs and by consumers, which are not in any mysterious sense psychological, but are based upon the technical necessities of a capital-using economy" (p. 117). The general meaning of this central proposition seems unmistakable. "The technical necessities of a capital-using economy" are its need to enlarge or diminish the stock of real capital as output changes; net investment is the actual change in the stock of capital; the rate of change in output induces the investment or disinvestment; variations in consumption reflect the variations in investment; the "technical necessities" of the economy thus propel its movements; and the acceleration principle rationalizes the "technical necessities." In Hicks's language:

> The main cause of fluctuations is to be found in the effect of changes in output (or income) on investment. There is nothing new in this contention; it is . . . nothing else but the familiar 'Acceleration Principle' which already has a long history. But it does not seem . . . that the consequences of this principle have hitherto been developed in a completely convincing manner [p. 37].

Hicks has surely made the acceleration principle more convincing by allowing for the phenomenon of surplus capacity. This bold step in the direction of realistic cycle analysis is blunted, however, by the aggregative character of his adjustment. The change in output that counts in his theory is the change in aggregate output, regardless of the mixture of pluses and minuses in individual sectors of the economy. But since, as he has properly argued, "falls in output cannot induce disinvestment in the same way as rises in output induce investment" (p. 83), it is wrong to allow a plus to be annihilated by a minus. Imagine two industries of about the same size whose respective outputs trace out an identical cyclical path. Let A be a single-firm industry all of whose plants are geographically bunched, while B numbers a thousand scattered firms operating on competitive lines. Assume, further, that every firm adjusts its investment in plant and equipment according to the rate of change in its output as long as its stock of capital is not in "excess of requirements." If A happens to be operating at 50 per cent of capacity, no new investment need or will be undertaken. But the same figure for B is merely a statistical average derived from the percentages for a thousand firms, some of which may be as low as zero and others as high as 100. The firms that have forged ahead in the competitive struggle may be operating at or close to "full capacity," and the low industry average will be no bar to launching extensions of their individual producing capacities. Suppose that six months later the ratio of output to capacity rises from 50 to 75 per cent in both A and B. Then the number of B firms operating at or close to full capacity may well be higher and the investment undertaken in the industry larger, while investment in A continues at a standstill. It is clear, therefore, that both the timing and the volume of investment may be very different in two industries, although their aggregate outputs move similarly and everyone's investment is in line with Hicks's version of the acceleration principle. It follows that the curve of "induced investment," which Hicks derives from the aggregate output of the econ-

omy, bears no determinate relation to the desired curve, which can be gotten only by going to the outputs of individual sectors.

Hicks's handling of the acceleration principle would be free from this defect if the individual outputs all moved in the same direction, or if there was full mobility of capital from one sector to another. In the latter case there would even be no need for concern over the size of the capital-output ratio. Of course, the real world is nothing like that. The ratio of capital to output is somewhat higher in agriculture than in manufacturing, is very much larger for public utilities than for manufacturing, and varies extensively over the field of manufactures. Since the distribution of investment among industries varies considerably both within a cycle and from one cycle to another, there is no empirical justification for Hicks's constant investment coefficient. Nor is there any empirical warrant for treating aggregate output as if it summarized a set of individual outputs always keeping the same direction. Even during the catastrophe of the early 1930's the outputs of a not inconsiderable number of American products increased in volume.[7] In general, the milder the cyclical phase, the more extensive is the crisscrossing of individual sectors; but, whatever the amplitude of the cycle, the crisscrossing of individual outputs is itself a cyclical phenomenon. "Whereas the proportion of expanding activities moves in the same direction as the aggregate in the early stages of a business cycle expansion or contraction, it moves in the opposite direction in later stages. The proportion of expanding activities is already declining months before aggregate activity reaches a peak, and is already rising months before the aggregate reaches its trough."[8] To reckon with these facts, Hicks would need to activate the accelerator, though in shifting degree, over the entire cycle—instead of releasing it fully over one stretch of the cycle and immobilizing it over another.

A revision of Hicks's accelerator along these lines, while it would deepen his theory of the cycle, would not necessarily change the broad conclusions. Under certain simple assumptions concerning the distribution of a change in aggregate output among individual sectors, it can be shown that my reformulation of Hicks's accelerator actually strengthens its cyclical power at downturns and gives it an active role even at recoveries—a stage where his accelerator is found hibernating. It might be interesting, and perhaps instructive, to develop these theoretical implications. For present purposes, however, it is more important to see that Hicks's acceleration principle, even after adjusting it to allow for declines in individual outputs, remains a rigidly technological theory of investment; and that, unless good evidence is brought in its support, it may misdirect our thinking about the short-term changes that are the essence of the business cycle. Hicks's principal justification of the acceleration principle seems to be that, unless the capital stock is expanded to accommodate an increase in output, it will be necessary to use the existing "capital equipment at more than its optimum intensity" (p. 39). Reasoning along these lines may justify faith in the acceleration principle as an explanation of long-run tendency. But the accelerator of Hicks's

[7] There is an interesting tabulation of the rates of change in output of 407 commodities from 1929 to 1933 and 1933 to 1937 in Appendix E of the Temporary National Economic Committee's *The Structure of Industry* (Monograph No. 27).

[8] A. F. Burns, "New Facts on Business Cycles," *Thirtieth Annual Report of the National Bureau of Economic Research* (New York, 1950), p. 11.

model is supposed to do its work in successive short periods, and I do not think it can be trusted for this purpose.

The capital goods that count in modern business—factories, power plants, shipyards, dwellings, locomotives, large machinery, and the like—ordinarily take months or years to produce. They are costly and, once acquired, may last a decade, a generation, or still longer. A decision to invest in goods of this character is much too important to be left to routine or some mechanical rule, like the rate of change in output. If an increase in output occurs, no one can be sure whether it represents a transitory or a permanent change in business conditions. No one can therefore be sure whether an addition to the capital stock is justifiable. A decision to make or not to make a new investment in capital is reached through the exercise of business judgment—that subtle and as yet little understood process whereby a businessman combines his knowledge of what seems to be the relevant past with his estimates of the present and his hopes, fears, and dreams of the future. One firm may respond to the increase in output by ordering promptly an expansion of capital facilities; another may decide to wait and see. For the time being both will have to get on with the existing plant and put up with marginal costs that may have become uncomfortably high. If the increase in output proves "transitory," the first firm will be saddled with the cost of maintaining an excessive plant. If the increase proves "permanent," the second firm will miss the opportunity of participating adequately in the advance of prosperity and will perhaps do a year or two later what, in the absence of uncertainty, it would have done sooner. But no firm is likely to deem it worth while to reappraise its capital stock in the light of every change in output. For, in the first place, the rate of change in output—whether taken by the month, or quarter, or year—moves rather erratically in practice. And, in the second place, instruments of production are divisible only to a limited degree. A ship, turbine or locomotive, a new factory or a wing added to an old factory, can vary in size considerably; but unless each conforms to some rough standard of efficiency, it becomes a toy, not an instrument of production.

In view of the imperfect divisibility of industrial facilities and their long period of gestation, the additions to fixed capital made by the individual firm come in substantial lumps.[9] May it not be, however, that the discontinuities, deflections, and irregular lags of the individual case tend to iron out when aggregates are struck, so that aggregate investment corresponds fairly closely to the rate of change in aggregate output? In other words, may not the acceleration principle fit badly the investment behavior of individuals and yet fit neatly investment in the aggregate? This result is conceivable. But the theorists who emphasize the acceleration principle—Hicks among them—have not addressed themselves to the question of how such a result may be brought about. In any event, it seems doubtful if a question of this sort can be handled with much assurance on a speculative plane alone. The problem must be settled, if it can be settled at all, by seeing what the facts show.

This matter has received some attention from empirical investigators—notably Kuznets, Tinbergen, and Hultgren.[10]

[9] See below, Sec. V, for a further analysis of the investment process and of the limitations of the acceleration principle.

[10] Simon Kuznets, "Relation between Capital Goods and Finished Products in the Business Cycle," in *Economic Essays in Honor of Wesley Clair Mitchell* (New York: Columbia University Press, 1935); J. Tinbergen, *Statistical Testing of Business-Cycle Theories: A Method and Its Application to Investment Activity* (Geneva: League of Nations,

I think it is fair to say that they have not found any substantial statistical support for the acceleration principle, taken as a general theory of investment in fixed capital over the business cycle. My own statistical searchings, which have covered a fair time span and range of industries, have led me to the conclusion that the cyclical movements of this type of investment are rather closely geared to the output of an industry but not to the rate of change in its output. None of these statistical results, however, is decisive from the viewpoint of Hicks's version of the acceleration principle. To test that version faithfully it would be necessary to convert his "period" into a unit (perhaps a changing unit) of calendrical time, to translate the unspecified structure of his investment lag into some concrete equivalent, and to delimit the historical intervals within which the acceleration principle is supposed to be active and those within which it is supposed to be dormant. These are formidable difficulties; but they are minor compared with still another hurdle that the statistician would need to overcome—namely, to separate out the "induced" part of investment from the "autonomous" part.

It will be recalled that Hicks does not attribute all investment to the rate of change in output. This distinction belongs solely to induced investment, to which autonomous investment must be added to get the whole of investment. But how is induced investment to be identified in the course of an empirical test of the acceleration principle? It would obviously not do to estimate it from the rate of change in output and to call the rest of investment "autonomous." This would be traveling in a circle. But if we start at the other end and seek to estimate autonomous investment directly, we are handicapped by the lack of a definition. Hicks's "autonomous investment is only autonomous with respect to the multiplier and accelerator mechanism" (p. 120), but this merely tells us what autonomous investment is not. His only positive identification is through the medium of illustrations: "Public investment, investment which occurs in direct response to inventions, and much of the 'long-range' investment . . . which is only expected to pay for itself over a long period, all of these can be regarded as *Autonomous Investment* for our purposes" (p. 59). This leaves us uncertain what kind or how much of the long-range investment is autonomous; whether the installation of *improved* machinery, if it happens to follow an expansion of output, belongs to the induced or autonomous category; and whether investment associated with railroading, mining coal, distributing mail, etc., is to be counted as autonomous when conducted by a public enterprise but as induced when conducted by a private enterprise. And while Hicks is to be commended for returning to realism at the close of his book, he seems to whittle his own distinction away when he declares that "by the exercise of foresight, investment which would naturally have been of the induced type . . . can be transferred to a time at which it is more convenient" and that "by this means induced investment is, in effect, converted into autonomous investment" (p. 168).

It is precisely the element of foresight that to me seems decisive in the short-run variations of investment,[11] in contrast to Hicks's "technical rigidities" (p. 49). A new invention, a change in relative prices, an expansion in output, or some other factor or combination of factors

1939); Thor Hultgren, *American Transportation in Prosperity and Depression* (New York: National Bureau of Economic Research, 1948), chap. vi.

[11] Cf. J. S. Duesenberry, "Hicks on the Trade Cycle," *Quarterly Journal of Economics*, LXIV, (August, 1950), 473–75.

may stimulate a decision to invest, but there is always some technical as well as business leeway in the timing of the investment. Investment in plant and equipment is governed, in the short run, by foresight, not by technical rigidities; practically all of it is "autonomous," practically none of it is "induced"—if we are to use Hicks's terminology. The "technical necessities" that Hicks sees in the acceleration principle are undoubtedly significant to the economist in analyzing secular trends of investment; also in connection with the long swings lasting from about fifteen to twenty-five years—such as have characterized residential construction in our own and other countries. Even over the short periods of the business cycles these technical necessities help to explain the behavior of certain categories of inventory investment—particularly, of goods in process.[12] Thus a mechanical acceleration principle has its place in economic analysis; but its role in the business cycle of experience is much more modest than in Hicks's model.[13]

IV

"The crucial question which a theory of the cycle has to ask," as Hicks sees it, "is whether fluctuations are possible, and if so, how they are possible, in the absence of exogenous disturbances" (p. 63). From the viewpoint of this question it need not much matter how long the cycles in output may actually be, or how far back they go in history, or in what parts of the world they may be found, or what shape they characteristically assume, or in what degree different industries participate in the successive stages of the over-all cycle, or how the cycle in output may be related to prices, profits, employment, or other economic factors. But Hicks appreciates that what he regards as the "crucial question" is by no means the only question which a theory of the cycle has to ask. Necessary though it be to develop "some reasons why the economic system may be liable to cyclical fluctuations," the fact of fluctuations must yet be traced to the causes "which are the most important in practice" (p. 83); in other words, it must be dependably linked to other facts.

In his quest for an explanation Hicks passes from the general behavior of output to the special case of a cycle in output, first through a model that allows output to move freely, then through a model that constrains the movements of output. I shall not attempt to sketch the details of the theory, or to show how much and how ingeniously Hicks has added to the work of other theorists who have concerned themselves with the interaction of the multiplier and acceleration principles—notably, Harrod and Samuelson.[14] For present purposes it will suffice to convey the general character of Hicks's theory and to show why he concludes that "in the real theory it is the accelerator which is ultimately responsible for producing the cycle" (pp. 136–37).

Let us suppose that the economic system is in stationary equilibrium, with consumption at 100 and net investment at zero. Assume also that the consumption of any period depends on the income (or output) of the preceding period; that the investment of any period depends on

[12] See M. Abramovitz, *Inventories and Business Cycles, with Special Reference to Manufacturers' Inventories* (New York: National Bureau of Economic Research, 1950), chaps. viii and xvi.

[13] See Sec. V, below.

[14] R. F. Harrod, *The Trade Cycle* (Oxford: Clarendon Press, 1936); Paul A. Samuelson, "Interactions between the Multiplier Analysis and the Principle of Acceleration," *Review of Economic Statistics*, Vol. XXI (May, 1939).

the change in output during the preceding period; that the marginal propensity to consume from the income of the previous period is .9 and that the investment coefficient is .2. Let the equilibrium now be disrupted through an autonomous investment of 5, which comes in period 1 and never turns up again. What will be the consequences of this solitary disturbance? In period 1 consumption remains at its equilibrium value of 100; and, since autonomous investment is 5, total output is 105. In period 2 consumption becomes 104.5; autonomous investment is zero; but, since output has increased by 5 from period 0 to period 1, there is now an induced investment of $5 \times .2$; hence total output is 105.5. In period 3 consumption rises to 104.95; induced investment falls to .1 and total output to 105.05. In period 4 consumption falls to 104.545; induced investment becomes a negative quantity, $-.09$, and total output 104.455. In later periods output continues to decline but approaches more and more closely its equilibrium value of 100. Thus, after an initial kickup, the system converges to equilibrium. But if we had allowed the investment coefficient to be .6 instead of .2, other things remaining the same, the result would be quite different. Output would first rise for a time, then decline below the equilibrium value of 100, later rise again but to a lower peak, fall again but to a higher trough, and so on; thus equilibrium would be approached only after a series of oscillations. If the investment coefficient were as high as 1, the system would convert the initial disturbance into a cycle of constant amplitude around the initial equilibrium value. If the coefficient were somewhat higher, cycles of progressively increasing amplitude would emerge; and if the coefficient became sufficiently high (i.e., if it exceeded 1.73), the system would move "relentlessly away from equilibrium" (p. 71)—upwards if the solitary disturbance were positive, as in our illustration; downwards if the disturbance were negative. It seems clear therefore that, "even if there are no exogenous causes making for fluctuations" (p. 84), a cycle may be generated by the multiplier-accelerator mechanism.

But Hicks wishes to portray cycles against a rising trend of output, since "the cycles which have been experienced have all of them taken place against a background of secular expansion" (p. 8). With this in mind, he proceeds to show that "the deviations of actual output from equilibrium output have exactly the same properties" (p. 86) if a progressive equilibrium is disrupted as when a stationary equilibrium is disrupted. That is, the character of the response of a "regularly progressive economy" (in which autonomous investment and equilibrium income are both rising at the same, constant percentage rate) to a solitary deviation of autonomous investment from its normal path depends on the marginal propensity to consume and the investment coefficient—just as in the case of stationary equilibrium which we just examined. It therefore seems natural to inquire which of the various possibilities turned up by theory "is most likely to correspond with actual experience, and which of them could be an element in the explanation of a cycle such as we find in reality" (p. 89).

It appears that, once the rate of growth of the system is given, an investment coefficient of a particular size will yield a perfectly regular cycle. Hicks rejects this possibility because it seems rather unlikely that the "world . . . had got stuck for two centuries with an investment coefficient" (p. 89) of this precise value. Another hypothesis is that,

given the marginal propensity to consume, the investment coefficient has been such as to yield damped oscillations. In this case, of course, "a single disturbance cannot produce the fairly regular cycle which has been experienced" (p. 89); but may not a stream of disturbances following thickly on one another keep the cycle from vanishing? Hicks feels that this "theory of damped fluctuations and erratic shocks" (p. 91) is also unconvincing. The hypothesis he embraces is that the marginal propensity to consume and the investment coefficient are of such size as to generate "explosive cycles" or even outright "explosions." At first blush this seems utterly implausible, and so it would be if Hicks stopped here. But Hicks goes on to impose limits on output—something I failed to do in tracing the consequences of a disturbance of stationary equilibrium. The upper limit is fixed by the "scarcity of employable resources" (p. 95), so that there is a "full employment ceiling" (p. 96). Although there is no direct lower limit on output, one is indirectly provided by the fact that "disinvestment in fixed capital can only take place by a cessation of gross investment" (p. 101). This hypothesis of "constrained explosion," Hicks feels, "is the one which really fits the facts" (p. 92).

To see how the model works, it is simpler to take his stationary than his progressive equilibrium as a point of departure. Let us therefore revert to our preceding illustration with its solitary burst of autonomous investment. The consumption function we can leave unchanged; but we must now raise the investment coefficient to suit its "explosive" mission, and we must also put limits on output. Let us say that the investment coefficient is 2, that the ceiling to output in any period is 130, and that disinvestment in any period cannot exceed 6. In period 1 total output and its components are now the same as in the previous illustration. In period 2 consumption is again 104.5; but the induced investment is 10 and total output 114.5. In period 3 consumption is 113.05; the required investment is 19; but, since output cannot exceed 130, investment is only 16.95. In period 4 consumption is 127, and the output ceiling keeps investment down to 3. In period 5 consumption remains at 127, since output in period 4 is the same as in period 3; for the same reason induced investment is zero, and the expansion in output is not only halted but converted into a decline. In period 6 consumption, reflecting the lower output in period 5, falls to 124.3; induced investment becomes -6 and total output 118.3. In the next period the required disinvestment is 17.4; but, since disinvestment cannot be more than 6, surplus capacity emerges, which will have to be worked off in later periods. The accelerator mechanism is now suspended, and the multiplier carries on by itself. Total output keeps declining, period after period, but the decreases in output become progressively smaller. If the disinvestment continued at 6, a new equilibrium output of 40 would be gradually approached. However, as the change in output becomes smaller, so too does the required disinvestment. When the change in output is numerically smaller than -3, the disinvestment required in any period can already be carried out in that period. For a time, however, the disinvestment must remain at 6 to allow the unfulfilled disinvestments of earlier periods to be consummated. Once this process is completed, the accelerator goes into action again; the disinvestment now becomes smaller than 6, and before long the decline in

disinvestment more than offsets the decline in consumption; in other words, total output again rises. From this point consumption as well as investment must increase; both advance energetically until the ceiling is hit, which chokes off the accelerator and sets off a fresh decline.

In this model the expansion of output is carried forward by the combined action of the multiplier and accelerator mechanisms. The expansion cannot taper off into a plateau, with output remaining at the ceiling level, because the decline in the rate of increase in output generates an absolute decline of investment. When output bumps along the ceiling, the induced investment must soon be zero; and the decline of investment cannot be offset by a rise of consumption, since consumption is determined by earlier outputs and the output along the ceiling is not rising. Thus the cyclical downturn of output is fundamentally due to a retardation in the growth of output itself, and the ceiling is sufficient to produce the retardation. So it is also in Hicks's regularly progressive economy, where the ceiling keeps rising but only at the moderate rate at which autonomous investment is rising. In both the stationary and the regularly progressive models the multiplier mechanism is responsible for the protracted contraction of output. But, whereas in the former model there cannot be a resumption of the expansion until excess capital has been worked off, in the latter model the continued growth of autonomous investment will check the decline of output and enable it to rise again before the surplus capacity has been eliminated; the resumption of a rise in output hastens the adjustment of the stock of ordinary capital to output; and, when this adjustment is completed, induced investment adds its strength to that of autonomous investment in driving the economy forward. Thus, in the regularly progressive economy the accelerator is suspended, not only during practically the whole of contraction as in the stationary economy, but also during the early part of the expansion. But the intermittent activity of the accelerator should not mislead us concerning its role as a cycle-maker. If the accelerator failed to function at all, there would be no cycle in the model; on the other hand, a multiplier of unity would not alone suffice to obliterate the fluctuations. Thus it is permissible to say, in the interest of brevity, that induced investment or the accelerator is principally responsible for the cycle.

This, as I read Hicks, is the essence of his theory. To be sure, the theory has more flexibility than my sketch conveys. Hicks recognizes that there is no technical limit on disinvestment in inventories, such as characterizes fixed capital. However, in line with the general drift of his argument, which rather minimizes the part of inventories,[15] he feels that "the accelerator, in the form in which it persists into the slump, is a mere ghost of what it was in the Boom" (p. 104). He recognizes that autonomous investment cannot be expected to follow a regularly rising path in actual life and that "it must experience autonomous fluctuations on its own account" (p. 120); but he regards these fluctuations as "superimposed upon the cycle" (p. 121) of a regularly progressive economy. He does not insist that the boom is always killed off by hitting the ceiling; on the contrary he shows that the investment coefficient may be "explosive" and yet

[15] See the authoritative study by Abramovitz (*op. cit.*), which goes a considerable distance toward establishing the highly significant role of inventories in the business cycle.

generate a decline before the ceiling is struck—though here, too, the retarded growth of output is responsible for the decline in investment and the eventual downturn of output. Again, Hicks's theory requires uniformity in the consumption and investment functions over any one cycle, but not from one cycle to the next. Nor does the theory necessarily depend on the simple lags of my exposition.[16] These various elements of flexibility leave, as Hicks sees it, "plenty of room for those divergences from a standard model which are needed in order to cover the historical facts" (p. 3).

As a result of his inquiry Hicks deems it possible to point to "a short list of fundamental facts which are sufficient to account for the cycle" (p. 3). Let us assemble this list of "facts" or "assumptions" (pp. 2, 83, 92, 95): (1) Consumption is a lagged function of income; induced investment is a lagged function of the change in income; and these functions are such that "an upward displacement from the equilibrium path will tend to cause a movement away from equilibrium." (2) The system has an upward trend of output geared to autonomous investment. (3) "Output is not indefinitely extensible against an increase in effective demand." (4) "Falls in output cannot induce disinvestment in the same way as rises in output induce investment." From such a list of "assumptions," Hicks concludes, it is possible to show that "a cyclical sequence, which is (to say the least) remarkably similar to that which is experienced in practice, is *inevitable*" (p. 2; Hicks's italics).

This conclusion suggests more than Hicks has proved. By what is "experienced in practice" Hicks cannot mean more than the abstraction I previously delineated (Sec. I); which still leaves, even if his theory turned out to be right, work for other times and other hands. His argument concerning consumption, induced investment, even autonomous investment, runs in terms of effective demand. On the processes whereby supply is adjusted to demand his list of assumptions is distressingly inarticulate. It seems impossible to me to make a useful pronouncement about what is or is not *inevitable* in Hicks's world until the tacit assumptions concerning conditions of supply, apart from the ceiling to output and floor of investment, have been spelled out. Aside from this, the cycle in Hicks's expanding economy is, strictly speaking, a cycle in *deviations* from an "equilibrium rate of growth," as he himself elsewhere recognizes (p. 101). Hence his assumptions do not necessarily lead to an expansion of output followed by an *absolute* decline of output; nor—therefore—necessarily to the sort of cycle which has bothered the practical world.

But I do not wish to multiply doubts along these lines. From the viewpoint of a theory which aims to be something more than an exercise in logic, the important issues, as I see them, lie elsewhere. The foundation stones of Hicks's theory are the multiplier and accelerator. These are the matters on which I have dwelt in earlier parts of this paper. And if what I have said on these subjects is at all valid, it will not do to treat consumption as a technical echo of output; it will not do to treat investment as a technical echo of the changes in past output; it will not do to treat the business cycle as a reflex of any "technical necessities of a capital-using economy." To come to grips with the economic realities of a capitalistic system, which is a capital-using economy of a very particular

[16] However, certain types of lag may cause serious embarrassment, as Hicks recognizes, though perhaps insufficiently.

sort, it is necessary to give far greater scope to market phenomena—the movements of costs, prices, profits, credit, and business sentiment itself—than one finds in Hicks.

V

The process of investing in fixed capital, which plays the key role in Hicks's theory of the cycle, cannot be understood outside its business setting. I have already commented on the imperfect divisibility of industrial facilities and their long period of gestation. In view of these characteristics of investment goods, a business firm will normally seek to have a margin of plant capacity to take care of contingencies, both such as may be foreseen and such as cannot, just as it normally carries a reserve of raw materials and finished wares in its inventories. Seasonal maxima—which sometimes exceed the average for a year by more than cyclical maxima exceed the average for a cycle—will be realized by working the plant more intensively, not by varying its scale. So also will the responses to sudden and irregular flutterings of demand, which are an ever present feature of business life and sometimes strong enough to leave their impress on fairly comprehensive economic aggregates. And the firm will look to the future, not only to the past—as in Hicks's model. There the increase in output comes first; the "investment in new capital to support that increased output" (p. 43) comes later. But in a growing economy a firm relies on "increased output" to support "investment in new capital" just as it relies on "investment in new capital" to support "increased output."

A new business commonly begins operations with a modest plant. As sales expand, all sorts of inconvenience and waste are suffered for a time. A year or two later better equipment may be added and perhaps a site acquired to accommodate a larger plant in case that proves necessary. As sales keep mounting, a new factory is built or a substantial addition made to the old. This may come soon or years later, but in either event the plant is expanded with an eye to what output may be several years hence as well as to its current level. In time the business becomes cramped for space once again, and the cycle of development is repeated. This, or something like it, is typically the investment path of a small business as it grows up. In a stationary firm or one that grows very slowly, the intervals between capital expenditures will of course be longer than in a rapidly growing business. And what is true of a manufacturing concern is equally true of farming, mining, commercial, or financial enterprises. Thus, investment in plant and equipment on the part of a small or medium-sized business comes in substantial lumps, discontinuously. And while the investment of large firms seems continuous by comparison, this merely reflects the overlapping of many processes of the same kind, going on in various sections of the firm, combined with the fact that the projects undertaken are apt to be much larger and therefore remain longer in the stage separating the investment decision and the final installation.

In the actual world, therefore, the stock of capital in the individual firm cannot well move in any close adjustment to its output in the short run. If we broaden our view over the whole of an industry, we encounter a fresh impediment to the acceleration principle in the formation of new firms, which undertake new investment although they are still innocent of any past out-

put. And if the economic process as a whole comes into view, the linkage between current investment and the rate of change in output seems to vanish in a cloud. One railroad is built by a dreamer who sees bustling centers of industry and commerce when he looks at pasture and forest. Another is built by a wily promoter who sees an opportunity to embarrass a rival railroad or to appease the public's hunger for securities. One firm builds a factory to incorporate a new technical process, another to make a new product, a third because it is cramped for space, or because it has new business in prospect, or because it wishes to acquire a "new look," or because a new location promises lower taxes or a cheaper labor supply. One independent builder "sees" a housing shortage and lays down a score of new dwellings. At the same time a colleague "sees" that the residential market is overbuilt but nevertheless puts up a house or two to keep his organization intact; while a third, who shares the somber vision of the second, adds liberally to the supply of houses because he can borrow from his banker as much or more than what it costs him to build.

There is no need to enlarge on these remarks. It is clear that numerous influences play on investment and that one or another special influence is sometimes decisive in the individual case. This suffices to show why hardly a day passes in a large country without bringing forth a new crop of investment projects and why their volume must vary over time. But the special influences do not explain the heavy bunching of investment projects at certain times, their sparse numbers at other times, the fairly regular ascent from small numbers to large and the fairly regular descent from large numbers to small—in short, why there is a *cyclical* movement in investment. To explain this feature of investment, it is necessary to abstract from the multitude of special influences and to analyze the forces that govern fairly homogeneous sections of the investment market—such as free versus controlled industries, large- versus small-scale industries, new versus old enterprises, housing versus business enterprises, private versus governmental agencies, and so on. Once separate generalizations have been framed for the leading parts of the investment market, it becomes possible to determine with assurance how the broad forces of the market—principally, the movement of the national income and its distribution, the movement of building and equipment costs, and the movements of "finance"—impinge on investment at large. All these matters still require empirical investigation; but enough is already known to make it fairly clear that it is the pervasive forces of the market, rather than Hicks's mechanical accelerator, that give rise to fluctuations in a community's outlays on fixed capital.

Suppose, for example, that an expansion in aggregate output and employment has for some reason gotten under way. Then the income of individuals and business firms will expand also. Since the community as a whole is better off, spending on consumption goods rises; and so too does spending on investment goods—many of which seemed "necessary" months or years earlier but which were not acquired earlier because of financial stringency or business uncertainty. As spending expands, new "shortages" appear, and men's minds turn to ways of meeting them. The spread of expansion gradually generates in people a feeling of security, later a mood of optimism. Many who have been eager to

carry out new investments, and yet have postponed action because uncertain whether the time is "right," decide to go ahead now, while construction and equipment costs are still close to the level reached during the preceding slump. The new spirit of enterprise fosters all sorts of projects that are related very loosely, if at all, to the shortages of facilities which keep arising here and there or to the improved ability of investors to pay for new facilities. Individual dishoarding is now easier to rationalize, credit is easier to get, and equity capital easier to attract. Many families that in the past have dreamed about building a home "decide" to build one, in some cases because their income is larger, in others because they feel more secure about their income or because lenders feel this way about them, in still others because they look forward confidently to still better times. Business firms brush up their long-range plans for expansion, promoters push projects that will exploit new products or techniques, new firms are organized to share in the growing markets for standard commodities, and legislatures authorize improvements worthy of an "era of prosperity." Thus, as everyone knows, a rising national income and the state of exaltation that accompanies it pile up decisions to invest; and investment expenditures follow suit—though with an irregular lag and diminished amplitude.

But why does not the expansion of investment continue more or less indefinitely? By what processes is the upward movement of investment brought to a halt and its direction reversed? Here two facts are vital. First, the rise in construction and financing costs generated by the expansion itself. In thinking of the investment process, it is essential to keep in mind that a "decision to invest" is one thing and a "decision to invest *now*" is quite another. Investors generally realize that building a new house, factory, or power plant is not the same thing as purchasing a hat or even an automobile. They know that, when investment judgment proves bad, the penalty is severe. In reaching a "decision to invest," they may have given little or no conscious attention to the protracted increase that has already occurred in construction and financing costs. But this decision must be followed by another, whether to carry out the project now or later. At this stage investors are likely to consider very carefully the economic outlook in the months immediately ahead. They know that they may have the new plant or equipment on their hands for a generation and that the annual carrying charges with which they saddle themselves depend a good deal on the cost of construction, if not also on the rate of interest. They have gotten along thus far without the desired investment and in any event will have to manage without it for months or years—for as yet the investment good is only an amorphous wish or a sketch on a piece of paper. In some cases a postponement will clearly bring hardship or a business loss, and the interval between the "decision to invest" and the start of investment expenditure will be governed entirely by technical factors—such as surveying, acquiring a site, designing plans, securing loans, contracting out the job, etc. In many other cases investors, who judge that they can let the construction job and finance it on appreciably better terms six months or a year later, will bide their time. And not a few of those who are eager to move promptly will have a chance to reconsider their "decision to invest" in the light of market prospects, for the ar-

rangements preparatory to investment expenditure are often very time-consuming.

The rise in construction and financing costs during an expansion impinges broadly on the investing class and would check the investment boom sooner or later even if prosperity diffused itself uniformly over the economic community. But this does not happen, and the uneven spread of expansion is our second vital fact. True, business conditions are generally good and improving; yet some firms and even entire industries are unable to expand their sales, and others find it hard to advance their selling prices. At the same time unit costs of production are already rising over the range of business enterprise—first here and there, then on a broad front, despite improvements of technique and fuller utilization of facilities. At every stage of the business cycle there are bound to be some firms whose profits are declining or whose losses are increasing. But these firms are not a steady fraction of the business population; and after a business expansion has continued for some time there are various reasons for expecting their numbers to multiply. As a mounting optimism infects a widening circle of businessmen, errors concerning the sales that can be made at profitable prices tend to pile up. Supply "bottlenecks" keep developing, now in one locality or industry, then in others; in consequence the output of numerous enterprises—particularly those suffering from a shift in demand or an outworn technology—is restricted. Business custom, long-term contracts, or governmental regulation make it difficult or inexpedient for many firms to raise their prices; and, as the rise in unit costs continues, more and more of them are apt to find their profits diminishing. We therefore find in experience, as we may reasonably expect, that "after a business expansion has run for some time, the proportion of firms experiencing rising profits begins to shrink, although the profits of business in the aggregate continue to climb."[17] This development adds to the mood of hesitation that is already emerging among investors generally, on account of the protracted rise in construction and financing costs. The firms whose fortunes are waning are likely to be among the first to reduce investment expenditure, and their curtailments will spread doubt among others whose profits are still rising, but many of which have come to feel that investment costs will be reduced before long from the abnormal level to which they have been pushed by prosperity.

It is along lines such as these, I believe, that the cyclical downturns of investment in fixed capital are to be explained, if we hold in view an economy organized predominantly on the basis of free private enterprise. In Hicks's system the expansion of investment is brought to a halt and reversed by a mere retardation in the growth of physical output. But I do not know of any evidence that a declining rate of growth has generally characterized the closing stages of actual expansions in aggregate output[18] or that investment expenditure has been at all closely geared to the actual rate of growth of output. Even if empirical evidence fitted in more congenially with Hicks's

[17] See *Thirtieth Annual Report of the National Bureau, op. cit.*, pp. 22–26; and Thor Hultgren, *Cyclical Diversities in the Fortunes of Industrial Corporations* (National Bureau Occasional Paper 32 [New York, 1950]).

[18] See the study of this subject by Abramovitz, *op. cit.*, chap. xv. On the technical difficulties in ascertaining rates of change over a cycle, see A. F. Burns and W. C. Mitchell, *Measuring Business Cycles* (New York: National Bureau of Economic Research, 1946), chap. viii.

theory of the downturn, it would still be wise for the economist, when in search for the causes of the breakdown of an investment boom, to look in the direction of business life, including the government once it has become a major factor in the economy, rather than in the direction of Hicks's hypothetical technology. And it is to the processes of business life that Hicks himself seems to turn when he comes to the case of an upturn in investment. That depends in his system on the continued advance or spurt of autonomous investment; and while his autonomous investment merits another name and more analysis than it receives, it at least opens the route along which business processes might be seen.

VI

Hicks's slight of psychological and pecuniary factors is deliberate. At the opening of his penultimate chapter he states plainly: "It has been one of the main objects of this work to show that the main features of the cycle can be adequately explained in real terms" (p. 136). In line with this resolution there is hardly a mention of the price or monetary systems in the first eight of his twelve chapters. In chapter ix Hicks concedes that "it is very possible that some important aspects of the actual cycle can only be explained" by the aid of "the price-mechanism and the monetary mechanism" (p. 117). In chapter x he examines the consequences of a supposed cyclical movement in the ratio of investment goods prices to consumption goods prices; but the only result derived is a blurring "at the edges" of the previous argument (p. 133). The last two chapters are devoted to the "monetary factor," which he regards as a "secondary force" whose effects are "superimposed" on the "*main* cycle" (p. 3; Hicks's italics). I shall say nothing of this interesting monetary supplement. To examine it at all adequately would require not much less space than I have already taken; and it is perhaps just as well to leave the emphasis where Hicks himself has put it.

This emphasis on the "technical" or "real" aspects of economic life is not peculiar to Hicks's new book. It has been characteristic of a good part of recent economic theory, just as it was characteristic of a good part of classical political economy in its formative phase. The emphasis is an understandable and, to a considerable degree, a justifiable reaction against the price and monetary theorizing which flourished before the 1930's and which was found so seriously wanting when the Great Depression struck. In the midst of the confusion and despondency of the day, Keynes articulated a new theoretical system, couched in a wonderful language, from which governmental policies seemed to peel off as simply and naturally as skin from an onion. He saw in a business depression, not any maladjustment of costs and prices, but a deficiency in spending, which he attributed principally to a deficiency in investment. The latter he analyzed in terms of the supply of money, liquidity preference, the supply price of investment goods, and the expectations of the business community concerning the future earnings stream from new investment. He put the emphasis on the expected earnings stream in his theory of investment, just as he put the emphasis on actual income in his theory of consumption. He saw in investment the great driving force of employment, but one that a modern society could not safely leave to the unrestrained impulses of private enterprise. These teachings of Keynes paved the way for drastic simplifications by later economists. Before

long a literature arose in which costs, prices, and profits were pushed aside, sometimes completely ignored. Consumption emerged as a passive response to income, without any link to the system of prices or the range of economic choice. Investment became an exogenous variable—a mere technical datum for the economist, like the consumption function. Investment opportunity itself became a sort of physical fact; and not a few economists formed the habit of speaking of investment outlets as if they were some objective quantity, independent of the dreams of men, their hopes and fears about governmental policy, or their expectations about costs, prices, and profits.

It is against this background that I see Hicks's book on the business cycle. It is based on a profound appreciation of the work of Keynes, yet consciously departs from Keynes's doctrines at numerous points. It is written in a scholarly spirit and is devoted to scientific issues, not to questions of immediate policy. It is a sophisticated work, not to be confused with vulgar Keynesianism. It shares, however, the aggregative, mechanical, "real" slant of much of the recent literature on economic theory. It stresses the role of effective demand but has practically nothing to say about the organization and conditions of effective supply. It sees investment as an addition to output but overlooks its part in modifying the state and intensity of competition in the business world. It restores investment to an endogenous role, which it had long played in earlier economic theory, including that of Keynes; but the restoration is carried out through a theorem of impersonal technology, not of human conduct in a business environment. The sophistication of Hicks's work derives from the pressures of a subtle and inquiring mind, not from a large knowledge of practical affairs or the teachings of history and statistics. The result is a closely reasoned[19] and attractively written essay about a possible cycle, but—as far as I can see—a dubious aid to students seriously concerned with the actual alternations of good and bad trade to which the Western world has been subject in modern times.

[19] Although the book sets a very high standard in this respect, a professional logician might yet have something to say about Hicks's method of arriving at what is or is not "probable" both in his explicitly supposititious world and in the alleged real one.

THE "WELFARE" EFFECTS OF AN INCOME TAX AND AN EXCISE TAX

MILTON FRIEDMAN
University of Chicago

THIS paper discusses the relative effects on welfare of an excise tax and an income tax. It demonstrates that an alleged "proof" of the superiority of the income tax is no proof at all, though it has repeatedly been cited as one. It then outlines a "correct" analysis of the problem.[1]

The explicit content of the paper is, however, only indirectly related to its major aim, which is to show by example the difference between two approaches to economic analysis. From this point of view, the present paper is an extended footnote to a recent article in this *Journal* in which I contrasted two definitions of the demand curve—the usual one, which supposes *money* income and money prices of other commodities the same for different points on a single demand curve, and an alternative definition, which I attributed to Alfred Marshall and which supposes *real* income to be the same.[2] I argued that the usual definition has arisen out of, and reflects, an essentially arithmetical and descriptive approach to economic analysis; the alternative definition, an analytical and problem-solving approach; and that the usual definition is in consequence less useful for most purposes. The quantitative difference between the two demand curves is small if the percentage of income spent on the commodity in question is small, as it generally is in actual applications, and approaches zero as that percentage approaches zero. Nonetheless, the difference in concept is highly important precisely because it does reflect a fundamental difference in approach.

The following discussion makes no explicit use of a demand curve. Yet it will be seen that the widely used analysis of the welfare effects of income and excise taxes, which it shows to be erroneous, is cut from the same cloth as the usual definition of the demand curve—both reflect the arithmetical approach to economic analysis. Of course, no approach makes error inevitable. An analyst may win through to correct results despite deficiencies in his approach and tools. Yet the fact that able and sophisticated analysts have been misled affords ample evidence that the defect is not unimportant.

I. THE ALLEGED "PROOF" OF THE SUPERIORITY OF AN INCOME TAX

Figure 1 summarizes an analysis that has frequently been offered as a "proof" that an income tax is superior to an excise tax yielding the same revenue.[3]

[1] This paper is written in the spirit of the "new" welfare economics, because the technical problem it deals with has been considered primarily in those terms and despite serious doubts about the acceptability and validity of this approach to normative economics. The value of the general approach is a separate and broader issue, not considered here, except for the parenthetical comment in n. 4.

[2] Milton Friedman, "The Marshallian Demand Curve," *Journal of Political Economy*, LVII (1949), 463–95.

[3] Most presentations of the "proof" derive from M. F. W. Joseph, "The Excess Burden of Indirect Taxation," *Review of Economic Studies*, VI (June, 1939), 226–31; or J. R. Hicks, *Value and Capital*

Consider a world of two goods, X and Y. Let the quantity of X be measured along the horizontal axis and that of Y along the vertical and draw the indifference curves of a consumer (a "representative" consumer[?]). Let AB represent the initial budget line, so P_1 is the initial equilibrium position. Let an excise

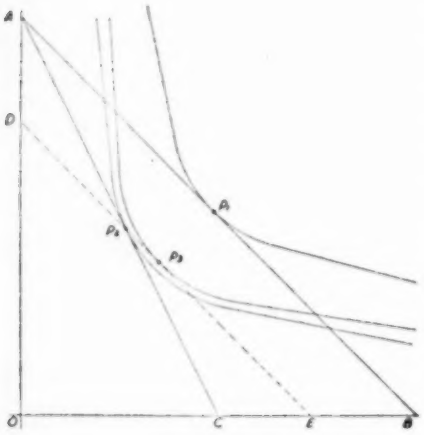

FIG. 1

tax of, say, 50 per cent of the price inclusive of tax be placed on X (call this "Excise Tax A") and let it be entirely shifted to the consumer, so that the price of X to the consumer doubles. On the assumption (underlying the usual demand curve) that money income and other prices are to be held fixed in analyzing the effect of a change in one price, the budget line shifts to AC and the equilibrium position to P_2. Suppose, now, that instead of the excise tax an income tax had been imposed to yield the same revenue ("Income Tax A"). The budget line corresponding to this income tax is parallel to AB, since prices are assumed to be unaffected. Moreover, it must go through P_2 if the revenue from the income tax is to be equal to the revenue from the excise tax: under the excise tax, the individual spends his whole money income,

(Oxford, 1939), p. 41. T. Peacock and D. Berry, in "A Note on the Theory of Income Distribution," *Economica*, N.S., XVIII (February, 1951), 83–90, which applies Joseph's analysis to a slightly different problem and hence is equally invalid, point out that Joseph was anticipated by Gino Borgatta in an article in the 1921 volume of the *Giornale degli economisti*. The "proof" is also repeated in George J. Stigler, *Theory of Price* (New York: Macmillan Co., 1946), pp. 81–82; Edward D. Allen and O. H. Brownlee, *Economics of Public Finance* (New York: Prentice-Hall, 1947), pp. 343–45; M. W. Reder, "Welfare Economics and Rationing," *Quarterly Journal of Economics*, LVII (November, 1942), 153–55 (the rest of Reder's article is characterized by the same fallacy as the "proof" he reproduces, attributing it to Hicks); Haskell Wald, "The Classical Indictment of Indirect Taxation," *Quarterly Journal of Economics*, LIX (August, 1945), 577–96, esp. 579–82; and A. Henderson, "The Case for Indirect Taxation," *Economic Journal*, LVIII (December, 1948), 538–53, esp. 538–40. A logically equivalent argument is used to discuss the welfare effects of alternative forms of direct taxation by Kenneth E. Boulding, *Economic Analysis* (rev. ed; New York: Harper & Bros., 1948), pp. 773–75, and is repeated by Eli Schwartz and Donald A. Moore, who dispute Boulding's specific conclusions but do not question the validity of his argument, in "The Distorting Effects of Direct Taxation: A Re-evaluation," *American Economic Review*, XLI (March, 1951), pp. 139–48.

The analysis of this problem by Joseph and Hicks is often considered identical with the earlier analysis of the same problem by Harold Hotelling in "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates," *Econometrica*, VI (July, 1938), 242–69, esp. 249–51. But this is a serious error, since Hotelling avoids the fallacy that mars the analyses listed in the preceding paragraph. An interchange between Hotelling and Ragnar Frisch on Hotelling's article, *Econometrica*, VII (April, 1939), 45–60, deals rather obliquely with the point with which the present note is concerned. At bottom, the major difference between Frisch and Hotelling is that Frisch interprets Hotelling's proof as identical with that given by Joseph, although, of course, Joseph's proof is not referred to and had not appeared in print when Frisch wrote. Frisch fails to see the force of Hotelling's emphasis on the essential point of difference, namely, that Hotelling takes account of conditions of cost of production.

The "proof" is critically examined and correctly criticized by Earl R. Rolph and George F. Break, in "The Welfare Aspects of Excise Taxes," *Journal of Political Economy*, LVII (February, 1949), 46–54. Their analysis has much in common with that of

which is taken to be the same whichever tax is imposed, on the bundle of goods indicated by P_2; this expenditure equals the tax payment plus the cost of P_2 at pretax prices; in consequence, if he pays the same amount in taxes under an income tax, he will be able to buy the bundle indicated by P_3 at the pretax prices with the rest of his income. The budget line under the income tax is therefore DE. But, with this budget line, the individual will not in fact buy the bundle indicated by P_3; he will instead buy the bundle indicated by P_3, which is on a higher indifference curve. It is therefore concluded that an income tax permits a consumer to attain a higher indifference curve than an excise tax yielding the same revenue, i.e., that

Income Tax A is preferable to Excise Tax A.[4] (1)

II. THE FALLACY IN THE ALLEGED "PROOF"

To bring out the fallacy in this alleged proof, we shall use it to "prove" precisely the reverse of this proposition, namely, that Income Tax A is inferior to Excise Tax A. Suppose Excise Tax A to be in effect, so that the individual is at P_2. Now let a second excise tax of the same percentage, say 50 per cent, be placed on Y (Excise Tax B), and again let it be entirely shifted to the consumer. The new budget line, that corresponding to Excise Tax B plus Excise Tax A, is the line FC in Figure 2, which also contains the budget lines of Figure 1. FC is, of course, parallel to AB: the prices of both X and Y are supposed to be higher by the same percentage, hence their relative price is unchanged. Let P_4 be the point at which FC is tangent to an indifference curve, so that it represents the bundle purchased by the consumer when both excise taxes are in effect. Suppose, now,

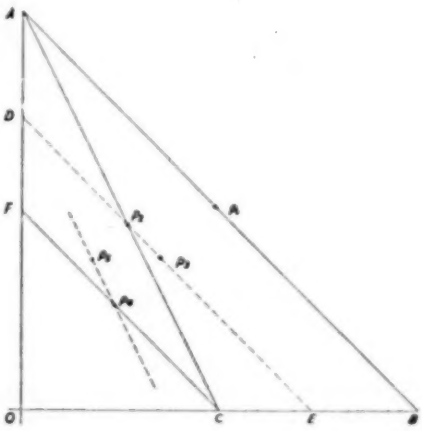

FIG. 2

that instead of Excise Tax B an income tax, Income Tax B, had been imposed in addition to Excise Tax A to yield the

the present paper; they point out essentially the same defects in the "proof" and give an essentially correct analysis of the problem. A correct analysis of the problem is also given by I. M. D. Little, *A Critique of Welfare Economics* (Oxford, 1950), pp. 157–79. In a recent article, "Direct *versus* Indirect Taxes," *Economic Journal*, LXI (September, 1951), 577–84, which came to my attention only after the present paper was in the hands of the printer, Little also points out the defects in the usual analysis. The chief difference between the present paper and the relevant parts of the papers by Rolph and Break and by Little is that the present paper is primarily concerned with the methodological issue involved in the analysis; the others with the substantive issue.

[4] The reader should perhaps be warned that the identification of "being on a higher indifference curve" with "is preferable to" is a far less innocent step than may appear on the surface. Indeed, the view expressed in n. 1 about the validity of the "new" welfare economics in general rests in considerable measure on the belief that this step cannot be justified within the utilitarian framework of that approach, though it can be within a different, and in my judgment preferable, philosophical framework. For a criticism of this step on somewhat different grounds see Little, *op. cit.*, pp. 38–50. These considerations are not, however, relevant to the particular technical point made in this paper.

same revenue. The "proof" given in the preceding paragraph can now be repeated, starting from P_2 instead of P_1. It obviously shows that Income Tax B (plus Excise Tax A) is preferable to Excise Tax B (plus Excise Tax A): a budget line through P_4 and parallel to AC (a segment of which is shown by the dashed line through P_4 in Fig. 2) will permit the consumer to move from P_4 to a preferable point, P_5. This "proof" therefore yields the proposition

> Income Tax B plus Excise Tax A is preferable to Excise Tax B plus Excise Tax A. (2)

But Excise Tax A plus Excise Tax B is identical with a 50 per cent income tax, since a tax of 50 per cent on the price, including tax, of every separate commodity consumed is indistinguishable from a tax of 50 per cent on income. Call this "Income Tax C." Proposition (2) can then be written

> Income Tax B plus Excise Tax A is preferable to Income Tax C. (3)

Income Tax C is clearly Income Tax A plus Income Tax B, since Income Tax A yields the same revenue as Excise Tax A, and Income Tax B, the same (additional) revenue as Excise Tax B (on top of Excise Tax A). Proposition (3) can therefore be written

> Income Tax B plus Excise Tax A is preferable to Income Tax B plus Income Tax A, (4)

which becomes, when Income Tax B is removed from both sides,

> Excise Tax A is preferable to Income Tax A. (5)

Clearly something is wrong here. Propositions (1) and (5) cannot be simultaneously correct; yet, if the argument leading to proposition (1) is accepted, proposition (5) cannot be rejected, since it follows rigorously from the same argument. The argument leading to proposition (1) must therefore be invalid. And if we now re-examine this argument, we shall find that it is, in fact, patently absurd (and, further, that its absurdity could hardly have failed to impress the sophisticated theorists who have accepted it except for the habitual patterns of thought engendered by the usual approach to demand curves). Consider the budget lines AB and AC in Figure 2. It is obvious directly, and without the use of indifference curves, that the alternatives available to the consumer when the budget line is AC are clearly inferior to those available when the budget line is AB. When it is AB, he can, if he wishes, have any of the alternatives available when it is AC *plus* all the bundles in the triangle ACB. The above analysis supposes that the mere imposition of the excise tax reduces the range of alternatives open to the consumer (and by implication to every consumer) in a way that is calculable by simple arithmetic. How can this be? The imposition of the excise tax per se does not change any of the technical production possibilities; it does not by itself lessen the physical resources available to the community. It may reduce the quantity of resources available to produce X and Y if the proceeds are used to produce goods under state direction which formerly were not produced (say goods Z). But, in that case, Figure 2 is not at all adequate, since an additional axis would be needed to represent goods Z. More important, the reduction in the alternatives open to the consumer would then depend on physical and technical possibilities, the kinds of resources needed for the goods produced by the state, and similar factors; the reduction cannot be computed by simple arith-

metic from the knowledge summarized in Figures 1 and 2.

The above analysis says nothing about the destination of the proceeds of the excise tax; it would not be changed if the proceeds were impounded or used to give a per-unit subsidy on Y or an income subsidy to consumers. But in any of these cases the tax would not have reduced the range of alternatives technically available. If prices were temporarily rigid, the supply of money fixed except for the changes brought about by the tax, and the proceeds of the tax impounded, unemployment might of course occur in the short run (though there is then considerable ambiguity in the assumption that X and Y are the only goods in the world). This would not, however, be a stable position; prices would tend to fall relative to money income, which would shift the line AC to the right. More important, if prices did not fall relative to money income, the most significant implication of either the excise tax or the income tax would be the same, namely, that either tended to produce unemployment and a reduction in the alternatives available to consumers. The difference between P_3 and a point at the original prices equivalent in utility to P_2 (the point of tangency between a budget line parallel to AB and the indifference curve through P_3) is small compared to the difference between either and P_1; indeed, the ratio of the former difference to the latter difference approaches zero as the excise tax (or equivalent income tax) approaches zero.[5] It follows that if rigidity of prices and creation of unemployment are considered the major consequences, the conclusion would have to be that the income tax and excise tax have essentially identical effects on "welfare" and that any difference between their effects is of the "second order of smalls."

The analysis cannot be saved by this route. It is clearly intended to be a "long-run" analysis—comparative "statics," not dynamics—as is amply demonstrated by both the considerations just cited and the assumed complete shifting of the excise tax. We can therefore abstract from any short-run price rigidities and suppose complete adaptation to the new circumstances. But then it is clear that Figures 1 and 2 alone tell nothing about the final effects of either the income tax or the excise tax. For example, suppose the excise tax is used to give a per-unit subsidy on Y. The slope of the new budget line would then be known (and might be that shown by AC if the excise tax and subsidy were adjusted appropriately), but its position would not be; for its position would be determined not alone by the tastes of consumers and by arithmetic calculation but also by the technical possibilities open to the community.

III. A "CORRECT" ANALYSIS

In order to bring the technical possibilities into the picture, and thereby to eliminate the appearance of paradox in the earlier analysis, let us suppose that we are dealing with a community of many identical individuals—identical in tastes and preferences and also in kind and quantity of resources owned by each individual. In this community every individual will have the same income and

[5] The difference between P_1 and P_3 corresponds to the "income effect" as defined by Slutsky; between P_3 and the point at the original prices on the same indifference curve as P_2, to the "income effect" as defined by Hicks. As Mosak has shown, the difference between the two income effects approaches zero relative to the income effect itself as the price change approaches zero. See Jacob T. Mosak, "On the Interpretation of the Fundamental Equation of Value Theory," in Oscar Lange, Francis McIntyre, and Theodore O. Yntema, *Studies in Mathematical Economics and Econometrics* (Chicago: University of Chicago Press, 1942), pp. 69–74.

consume the same bundle of goods, so we can represent the position of the community by the position of any one individual, as in Figure 3. Given the resources available to the community, there will be some set of combinations of X and Y that it is technically possible to produce. These can be represented by a production indifference curve. Since in our hypothetical community every individual will consume an aliquot share of each commodity, we can divide the co-

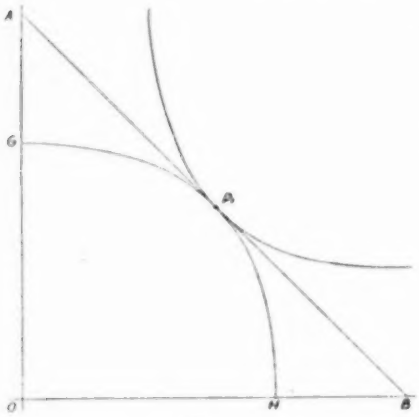

FIG. 3

ordinates of this production curve by the number of individuals and plot the result on any one individual's indifference map. GH on Figure 3 is such a production possibility curve. It shows the alternative combinations of X and Y that are technically available to each individual, given that every individual ends up with the same combination. It should be emphasized that Figure 3 is for an individual and therefore does not involve interpersonal comparisons; we are interested here in an "allocative," not a "distributive," problem and can abstract from the distributive problem by dealing with a society composed of identical individuals.

If the society were initially at a position of full competitive equilibrium, each individual would be at P_1. At this point the rate of substitution in consumption (the slope of the consumption indifference curve) is equal to the rate of substitution in purchase on the market (the price ratio shown by the slope of the budget line), which, in turn, is equal to the rate of substitution in production (the slope of the production indifference curve). Technical possibilities are being fully exploited, as shown by the fact that P_1 is on the frontier of the alternatives technically capable of being produced (these obviously include not only those on GP_1H but also those between the production indifference curve and the origin).

How can we represent a proportional income tax on this diagram? If the proceeds are impounded or returned to individuals in the form of a per capita subsidy, the diagram obviously remains completely unchanged. For such an income tax and subsidy do not alter the relative prices of X and Y, the consumption indifference curves, or the production possibilities. They are a purely nominal matter on the present level of analysis. If the proceeds of the income tax are spent by the state to produce, say, Z, with resources formerly used to produce X or Y, the production possibilities are clearly changed. There will now be a new production indifference curve, showing the alternative combinations of X and Y capable of being produced, given the production of a specified amount of Z. But the change in the production indifference curve depends only on the amount of Z produced, not on how the funds are raised. If we suppose this amount of Z to be given and fixed, the new production indifference curve will be the same whether an income tax or an excise tax is imposed;

hence, in investigating any difference between an income tax and an excise tax, we can, without loss of generality, suppose GP_1H to be the production indifference curve after the subtraction of resources to produce Z. Figure 3 can therefore represent the situation both before and after a proportional income tax for purposes of comparing such a tax with an excise tax.

What now of an excise tax? One condition is obvious. The position of equilibrium must be on the production indifference curve GH. Any position above the production indifference curve is technically impossible with the available resources: any position below it does not involve full use of available resources and is therefore unstable. Beyond this, the essential feature of an excise tax for our purposes is that it leads to a divergence between two prices—the price paid by the consumer and the price received by the producer—and, hence, between two price ratios that were formerly the same—the price ratio relevant to the consumer and the price ratio relevant to the producer. The terms on which the consumer can substitute one commodity for the other in purchase on the market, while keeping total expenditures the same, must be calculated from prices inclusive of tax; the terms on which the producer can substitute one commodity for the other in sale on the market, while keeping total receipts the same, must be calculated from the prices exclusive of tax. Equilibrium for consumers requires that the rate at which consumers can substitute in purchase be equal to the rate at which they are willing to substitute in consumption; i.e., that the consumer budget line be tangent to a consumption indifference curve. Equilibrium for producers requires that the rate at which producers can substitute in sale be equal to the rate at which they can substitute in production; i.e., that a constant-receipts line be tangent to the production indifference curve. A position of equilibrium satisfying these conditions is given by P_6 in Figure 4. The line IJ is the budget line as it appears to the consumers; the line KL, the constant-receipts line as it appears to producers. The two diverge because of Excise Tax A on X, which may be regarded as determining the angle between the two lines and which means that the extra amount of X consumers can purchase by giving up one unit of Y is less than the extra amount of X producers need to sell to recoup the loss from selling one fewer units of Y. At P_6, KL is tangent to the production indifference curve and IJ to a consumption indifference curve.

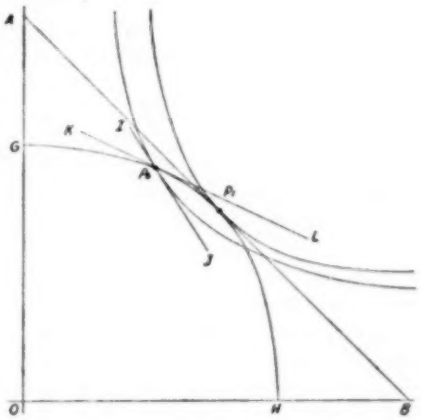

FIG. 4

Given the shapes of the curves as in Figure 4, P_6 is necessarily inferior to P_1, in the sense that the individual is on a lower indifference curve. Given that the initial position is one of full competitive equilibrium with no taxes or subsidies, i.e., that it is P_1, Excise Tax A is inferior to Income Tax A. Let us now, however, compare Excise Tax B and Income Tax B. Excise Tax B is a tax on Y at the same

rate as Excise Tax A on X. Superimposed on the latter, it precisely offsets its effects on price ratios and eliminates the divergence produced by Excise Tax A between the price ratio relevant to consumers and that relevant to producers. The two again coincide as initially, and, in consequence, P_1 is the equilibrium position with Excise Tax B plus Excise Tax A. On the other hand, the imposition of Income Tax B on top of Excise Tax A leaves the divergence between the two ratios unchanged and leaves P_6 the equilibrium position. Hence Excise Tax B is preferable to Income Tax B, given that both are superimposed on Excise Tax A. This is the converse of the earlier proposition (2), and hence the rest of the earlier analysis no longer follows. The apparent paradox is resolved and shown to be the result of an error in the analysis leading to propositions (1) and (2).

IV. CONCLUSION

At this point the reader may well be tempted to regard the alleged proof of Section I as rehabilitated, to say that "of course" its validity depends on the assumption that the initial position is one of competitive equilibrium and that, while the users of the "proof" have been careless in not stating this assumption explicitly, they have doubtless recognized its necessity. A re-examination of the "proof" will, however, show that no "assumption" about the nature of the initial position will render it a valid proof of the relevant economic proposition. The conclusion to which it is said to lead may be correct when the initial position is a position of full competitive equilibrium; but the argument does not demonstrate that it is correct or why it is correct. The alleged syllogism, "Socrates is a man, Socrates is X, therefore all men are X," happens to lead to a correct "conclusion" when X stands for "mortal," though not when X stands for "Greek." Nonetheless, the assumption that X stands for "mortal" will not render it a valid syllogism. The parallel is exact: the alleged proof that an income tax is superior to an excise tax is not a proof at all; no *step* in the alleged proof depends for its validity on the character of the initial position; hence, no "assumption" about the initial position can convert it into a valid proof, though the final statement in the "proof" may be correct for some conditions and not for others.

The analysis in Section III shows that no general statement can be made about the relative effects on "welfare" of what we have been calling "income taxes" and "excise taxes." Everything depends on the initial conditions under which the taxes are imposed. But even this statement does not sufficiently indicate the limitations on the direct applicability of the results. What I—in common with the other writers on this problem—have called an "income tax" has little or no kinship with the taxes actually levied under that name. The latter are fundamentally excise taxes more or less broad in scope. Even a straight proportional income tax on a broadly defined tax base does not fall equally on all goods and services produced with available resources; inevitably it leaves untouched goods and services not produced through the market—leisure, household activities, etc. It therefore makes the rate at which the consumer can substitute them for marketable goods and services different from the rate at which it is technically possible to substitute them. This effect is clearly greater if the income-tax base is more narrowly defined, an exemption is allowed, or the rates are progressive. The most that one can infer from

the analysis is perhaps a presumption that, the broader the scope of the tax and the more equal its incidence, the less likely it is to falsify rates of substitution. But even this is at best a presumption to be tested in each case. Unfortunately, formal analysis can seldom if ever give easy answers to hard problems. Its role is quite different: to suggest the considerations relevant to an answer and to provide a useful means of organizing the analysis.

The analysis in Section III is clearly applicable to many problems other than the particular one to which it is there applied. Forces other than taxes may produce divergences between the rates of substitution whose equality is the essential condition of an "optimum" in the sense implicit in the above discussion. For example, monopoly produces such a divergence, and it is this divergence that constitutes the fundamental argument, on strictly allocative grounds, against monopoly. Similarly, Marshall's argument for taxes on decreasing-return industries and subsidies to increasing-return industries, to the extent that it is valid, involves a divergence between the production indifference curve relevant to the producer and the production indifference curve relevant to society and hence a divergence between the rate at which a producer judges that he can substitute commodities in production and the rate at which producers as a whole can actually do so. In fact, our simple Figure 4 contains the essence of much of modern welfare economics.

To return to the initial theme, the approach to economics underlying the usual demand curve is the approach underlying the superficial analysis embodied in Figure 1; the approach underlying the alternative demand curve along which "real income" is held constant is the approach embodied in Figures 3 and 4; one who started with this approach would be heavily insulated against analyses such as that embodied in Figure 1. The great defect of the approach underlying the usual demand curve is that it emphasizes arithmetic considerations; the great virtue of the approach underlying the alternative demand curve is that it emphasizes economic considerations.

ISAAC GERVAISE ON THE INTERNATIONAL MECHANISM OF ADJUSTMENT

J. M. LETICHE
University of California, Berkeley

The System or Theory of the Trade of the World . . . seem to me capable of answering any Event in Trade.—ISAAC GERVAISE, *The System or Theory of the Trade of the World* (London: H. Woodfall, 1720), Preface.

I. INTRODUCTION

THE greatest contribution to the theory of the international mechanism of adjustment prior to the writings of David Hume[1] and Henry Thornton[2]—if not prior to Ricardo—was made in 1720 by Isaac Gervaise.[3] The discussions by Gervaise entitled "Of the Different Kinds of Value," "Of the Ballances of Trade," and "Of Exchange" are truly remarkable. His treatment of income effects and his general equilibrium analysis of the international mechanism of adjustment are in many respects superior to those prevalent today. In effect, Gervaise outlined the first theory of general equilibrium in the international field, whereas most current presentations are still partial in their approach. He *generalized* the analysis of the mechanism of adjustment both for relatively stable and for fluctuating exchange rates. The customary present-day treatment deals first with the analysis of stable exchange rates and then proceeds to an analysis of fluctuating exchange rates, as if the processes of adjustment under relatively stable and under fluctuating exchange rates were independent phenomena. Analysis of stable exchange rates usually assumes gold-standard conditions and too frequently overlooks the fact that exchange rates are often stabilized more rigidly after a country is forced off the gold standard. Analysis of fluctuating exchange rates seldom explicitly considers the specific environment or relevant context. To Gervaise the same underlying factors appear to be operating under both conditions, differences in the quantitative importance of the variables under changing conditions always considered. Stable and fluctuating exchange rates are thus not unrelated phenomena. They are both instruments respectively called into operation as part of a generalized process of adjustment or *maladjustment* through time.

II. FIRST SYSTEMATIC FORMULATION OF A GENERAL EQUILIBRIUM THEORY OF THE INTERNATIONAL MECHANISM OF ADJUSTMENT

[1] Cf. David Hume, *Essays Moral, Political, and Literary*, ed. T. H. Green and T. H. Grose (published in 1752) (London: Longmans, Green & Co., 1889), esp. pp. 313, 333–37.

[2] Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, ed. F. A. von Hayek (New York: Farrar & Rinehart, Inc., 1939); for a brilliant discussion see pp. 152 and 259–59.

[3] The only known work by Isaac Gervaise is *The System or Theory of the Trade of the World* (London: H. Woodfall, 1720). I am indebted to Professor Jacob Viner, who rediscovered the work, for inspiration and encouragement in writing this essay. Professors Howard S. Ellis, Arthur H. Leigh, Lloyd W. Mints, and E. Victor Morgan have also read an early draft of my manuscript and offered helpful suggestions.

Gervaise' basic propositions may be stated algebraically as follows:

Production + imports − exports = Net consumption,

or

Production + imports = Net consumption + exports, (1)

Production × prices (for a given period of time) = Money income (for that period of time). (2)

Gervaise points out that if certain commodities were transportable and there were no tariffs or transportation costs, identical internationally traded commodities would be sold at the same price in all markets. Under "normal" conditions, trade relations would result in the distribution of the precious metals according to the relative national real incomes of the respective trading countries. Parenthetically, Gervaise notes that nations with rich gold and silver mines would be able to sustain a larger proportion of the precious metals than they otherwise would have been able to sustain—but only as long as their mines last and to the extent of their richness. During a war or some other national catastrophe, a nation may be denuded of its precious metals by employing a greater share of its resources "in the Defense of the State,"[4] and other countries may benefit. Ordinarily, however, if a country acquires a greater proportion of the precious metals as compared to the previous levels of money income—money being distributed according to national real income—and the cause of that attraction ceases, the country in question will not be able to retain the greater proportion of the precious metals. For, as Gervaise observes, if a country started with a certain equilibrium level of production, a level required to satisfy a desired and attainable level of national consumption, the increased quantity of money would, by raising money incomes (eq. [2]), break the equality (in eq. [1]) between the level of consumption and the level of production. The increase in incomes, with no corresponding increase in production, would lead to an excess of consumption over production, for "the number of Rich [consumers] is too great, in Proportion to the Poor [producers]." And, since

Net consumption + exports = Production + imports, (1)

an excess of consumption over production must mean an excess of imports over exports. Barring loans or default, the excess of imports would be paid for in gold, reducing the stock of gold and therefore, *mutatis mutandis*, causing a decline in the level of money incomes of the country in question, until its proportion of gold to that of the commercially active world gold stock was equal to its proportion of real income to that of world income, on the one hand, and until its level of consumption was equal to its level of production, on the other hand.[5]

This in itself, for 1720, was an important contribution to the understanding of the relation between domestic and international equilibrium; yet the insights of Gervaise into a relevant and generalized theory of the mechanism of adjustment were even more ingenious.

III. CREDIT, INFLATION, AND THEIR EFFECT ON TRADE

Penetrating with surprising simplicity and terseness to the root cause of private credit creation, namely, the wish of the seller to consummate a sale rather than risk losing it in the future, Gervaise con-

[4] Gervaise, *op. cit.*, p. 4.

[5] *Ibid.*, p. 5.

siders the case of a nation having increased its credit *relative* to that of other countries. This disproportionate increase in credit results in higher money incomes and in higher prices. "Credit," writes Gervaise, " . . . adds unto all things, an Increase of the Denomination of Value, proportion'd to the Increase of the Denominator by Credit."[6] Further, he points out that the increase of credit will operate in a way similar to an equal increase of mined gold, so that the country undergoing the credit expansion will *retain* only its *proportion* of the increased credit, prices now being higher all around. Explicitly, Gervaise explains the gold efflux entirely through the effect of the credit expansion on money incomes. But, since he assumes a fixed level of production and clearly states the effect of credit upon prices, he may have subsumed the price effects under the income effects. If, however, an explicit treatment of price effects is wanting, his treatment of income effects is both clearer and superior to that of the so-called modern "income approach." For his, in effect, is "a rate-of-expenditure approach," recording any impact of obsolescence and/or capital decumulation upon the balance of payments—an approach which we should find extremely useful in examining current problems in the international mechanism of adjustment.

Gervaise makes it quite clear that simple metallic currency systems (presumably he would have said the same for ideal gold-standard conditions) provide no guaranty against *world* inflations or *world* deflations. Metallic currencies merely tend to prevent an individual country from stepping out of line.[7]

Gervaise' discussion of the mechanism of adjustment under inflationary conditions is particularly noteworthy. Stressing the relation between inflation and the resource allocation problem, he observed that inflation stimulates excessive production for the home market as compared to exports. The nation, "being unable to furnish unto the rest of the World, the same quantity of Labour [goods] it furnish'd" prior to the credit expansion, "the Rich in that case being either richer than they were, or in greater number, consume more than before; so that . . . less is exported from that nation than was before the Excess of its Denominator."[8] In less antiquated terminology: as a result of credit expansion, money incomes are raised, and consequently the consumption of "native" commodities (i.e., domestic plus exportable commodities) is increased, thereby reducing the amount of goods available for export. This reduced volume of *exports* relative to imports is responsible for the decline in the influx, and hence in the stock, of precious metals and continues until a new equilibrium position—if possible—is reached, and conversely for the case of deflation.

The inseparable connection between domestic monetary policy and the balance of payments is made emphatically clear. But relative stress is laid upon the tendency for exports to decline during a period of inflation rather than for imports to rise, an important turn of emphasis which has received insufficient theoretical or empirical attention, particularly since Gervaise postulated a meaningful hypothesis which is capable of being tested under varying inflationary conditions.[9]

[6] *Ibid.*, p. 8.

[7] *Ibid.*

[8] *Ibid.*, pp. 8, 9.

[9] It is probably unnecessary to point out the difference between assuming "full employment" and assuming "partial employment" in this connection.

IV. THE "BALANCE-OF-TRADE" CONCEPT

Gervaise broadens his analysis to introduce the concept of the balance of trade, which he defines as the difference between exports and imports. When disturbances arise solely from trade, this balance "neither is very great, nor lasts long,"[10] for the trade itself causes continuous equilibrating adjustments about a natural level of exports and imports. But under inflationary conditions there may arise a *lasting* discrepancy between imports and exports. In analyzing how such disequilibriums arise and the process of adjustment or maladjustment which they engender, Gervaise made his greatest contribution toward a general theory of the international mechanism of adjustment.

Starting from an equilibrium position between exports and imports, Gervaise, with the aid of an arithmetical example, illustrates how a country undergoing inflation incurs an excess of imports over exports and then proceeds to show how this indebtedness may be discharged. At first, the indebtedness is met by the exportation of "Coin or Bullion," for coin, being the legally defined unit of account, represents the only international means of payment that does not rise in value in terms of paper. All other debt-discharging instruments, e.g., internationally traded goods, are affected by the inflation—rise in price in terms of the domestic currency—and hence are a costlier means of discharging foreign debt. Consequently, the outflow of gold and the negative balance of trade will run against the country until the domestic inflation is checked, i.e., until the total volume of means of payment—gold plus currency plus credit—is again in "proportional Equilibrium of the rest of the World."[11] But how can such an equilibrium be reached?

Equilibrium in the balance of trade may be reached, continues Gervaise, if the country in question possesses a stock of gold large enough not only to permit a gold efflux of sufficient volume to curb the domestic inflation (and thereby restore equilibrium between domestic production and consumption, and thus between imports and exports) but, in addition, to leave enough gold within the country to permit the maintenance of convertibility. If, however, the amount of gold available is so small that, after the country is entirely denuded of its gold holdings, the total amount of domestic means of final payment is still excessive (i.e., consumption exceeds production and therefore imports exceed exports), then convertibility has to be abandoned, in effect, at the point where the excess of imports has so reduced the quantity of gold holdings that they are merely sufficient to support the existing amount of domestic credit. Beyond this point, the level of imports has to be reduced to a volume that can be paid for by the reduced level of exports. This contraction in the volume of imports would lead, *in time*, to a reduction of domestic credit until a new equilibrium between consumption and production was established. The result of inflation, concludes Gervaise, "consists only in the Inhabitants living for a time in proportion to that swelling, so as to make a greater Figure than the rest of the World, but always at the cost of their Coin, or of their Store of real and exportable Labour [goods]."[12]

According to the foregoing analysis, inflation tends to reduce the volume of

[10] Gervaise, *op. cit.*, p. 9.

[11] *Ibid.*, p. 12.

[12] *Ibid.*, p. 13.

exports and, in time, the volume of imports, thereby lowering the total volume of foreign trade. This, too, is a meaningful hypothesis which is capable of being tested under "ideal" conditions.

V. EXCHANGES AND THEIR EFFECTS

We have observed that, for the re-establishment of equilibrium between exports and imports, credit contraction (i.e., monetary stability) is a primary requisite. But what of the transition? Although Gervaise spoke, as it were, in terms of "comparative statics," his major emphasis was on the nature of the transition. He well realized that the underlying inflationary factors causing the reduction of exports as compared to imports may not quickly disappear after convertibility and stable exchange rates are no longer attainable. Indeed, among the great merits of his analysis is its generalized and somewhat dynamic treatment of the *process* whereby a country moves from stable to fluctuating exchange rates. His insistence upon regarding relatively stable and fluctuating exchange rates as part of a continuous process of adjustment or maladjustment to the same underlying disturbance, e.g., domestic inflation, is a contribution of the first rank. He demonstrated that, except for the limited range of possible fluctuations of the exchanges under an international metallic standard, there is no basis for differentiating the theory of foreign exchanges between two currencies having a common metallic standard from that between two currencies of different standards. Yet he did not impute a significant function in the mechanism to the exchange-rate fluctuations within the limits of the specie points.

Specifically, tracing the mechanism of adjustment of a country undergoing inflation, Gervaise points out that if the *excess* of imports has caused such an outflow of gold that convertibility can no longer be maintained, then it may be impossible to pay for the imports with exports at the going rate of exchange. Foreign creditors, fearing the risk of transporting gold and being unwilling to wait until the balance of trade returns to equilibrium, will sell their accumulated foreign balances at a discount, the extent of the discount varying with the degree of the country's import surplus.

When the exchange rate of the country undergoing inflation falls markedly (ranging downward from the gold-export point) and gold becomes scarce, foreigners find that they would incur severe losses by selling their holdings of the depreciated currency. This in itself makes them ever more anxious to exchange their foreign holdings into any international means of payment whose value has not depreciated. In order to minimize their losses, they use their foreign-currency holdings to buy goods in the country undergoing inflation and ship them wherever they may yield the greatest revenue. But this increased demand for internationally traded goods raises their price in terms of the depreciated currency. Consequently, when merchants try to sell the goods elsewhere in terms of gold, they are compelled to reduce their prices, for competitors from third countries will offer similar goods at lower, uninflated levels. Hence exporters, finding that their receipts are unavoidably reduced by exporting goods to the inflated country, cease to accumulate foreign balances in it by exporting to it no more than they are sure of importing from it. Thus will that nation, having lost its stock of gold, be obliged to use its stock of exportable internationally traded commodities, a condition which will persist until the volume of credit is reduced.

Meanwhile, however, the reduction of exports by the country undergoing inflation stimulates the exports of third countries whose money incomes and prices have not risen. This, in turn, creates a brisk domestic demand in these third countries, making it possible for them to import "produce or materials" from the country undergoing the inflation; for, although the selling prices of the inflated country are high, the dearness is compensated by the difference in exchange. But this, in turn, forces these domestic goods—"raw materials and produce" which ordinarily do not cross national frontiers—to rise in price in the country undergoing inflation *even beyond the differences in the exchanges and consequently relatively to the price* of previously exportable finished manufactures.

As costs of manufacturing in the export fields rise relative to selling prices, exporters in the inflated country may find neither the same profit nor the same demand as before for their products. They are therefore forced to lay off some of their men. By degrees, the workers are compelled to quit their usual occupations and to move to those that are catering to the domestic inflationary demand.

Luxury and "superfluous" industries flourish at the expense of necessities. Nor are subsidies to manufacturers of necessities likely to be of much assistance. For any subsidy given to specific manufacturers merely results in attracting workmen from other *similar* occupations: "So that what is transported of the encouraged Manufacture, beyond nature, only ballances the Diminution of the others."[13]

Hence, while Gervaise comes very close to the present-day explanation of the way in which a country with a depreciated "credit" currency reaches equilibrium with an outside world having a metallic standard, he stops short, and his analysis takes on an extremely realistic form, a form which is, in effect, a particular case of a more general case; and the particular nonequilibrating case which Gervaise discusses is, on a priori grounds, as likely to occur as the particular equilibrating case which is generally accepted as current doctrine.

Gervaise closes his discussion of the mechanism of adjustment with a testimonial to free trade. When domestic production is not large enough to supply the demand of the inhabitants, he writes,

> the best and safest Way is freely to suffer Their Importation from the rest of the World; Taxes on Imports being no more than a Degree of Prohibition, and Prohibition only forcing those Manufactures to extend themselves beyond their natural Proportions, to the prejudice of those, which are, according to the Disposition of the Country, natural beyond the intire Demand of the Inhabitants; which lessens or hinders their Exportation, in proportion to the prejudice they receive by the increase of those Manufactures, which are but in part natural, and whereof the Importation is prohibited.[14]

And so Gervaise concludes: "That Trade is never in a better condition, than when it's natural and free."[15] For, even if certain benefits from protection are seen, "it is difficult to perceive its Countercoup, which ever is at least in full proportion to the intended Benefit."[16]

VI. MONOPOLY, TARIFFS, AND THE DETERMINANTS OF FREE TRADE

Before turning to his concluding section on remedies for internal and external instability wrought by inflation, Gervaise strongly censured the inefficiency of bigness and the imperfections and corruptions of monopoly. Giant organizations,

[13] *Ibid.*, p. 22.

[14] *Ibid.*, pp. 22–23.

[15] *Ibid.*, p. 23.

[16] *Ibid.*

which he considered under the heading of "corporations," were of no advantage to the state, except when private people were unable to attain such communal ends as improving navigation, etc. Large units, he maintained, "deprive Man of his natural Right to make the best of his Industry according to his genius, or Inclination."[17] Another charge against bigness was its tendency toward monopolistic and monopsonistic practices: "It's exceeding hard to find a number of Men as careful and laborious, as is necessary in buying and selling, and at the same time so generous and disinterested, as not to turn things to their own private advantage, when occasion serves."[18]

While Gervaise states in uncompromising terms that monetary instability, tariffs, and monopoly must be held in strict control, he consistently adheres to the principle that free enterprise is the essence of liberalism. His judgment on the ultimate determinants of foreign trade is no less incisive, for he suggests in several places that, government interference aside, it is to be explained predominantly by the relative scarcity and abundance of the factors of production, the quality of the factors always considered:

> Whenever I mention the quantity of Inhabitants, I always suppose, that regard which ought to be had, to the Situation, and Disposition, of the different Countries of the World; the same quantity of Inhabitants, not producing the same Effect, in all Countries, according as their Dispositions differ: which I shall shew hereafter.[19] [And later:] Neighbouring Nations have, generally speaking, a certain natural Portion, either great or small, of the same Produce and Manufactures, according to their Number of Inhabitants, and as they are disposed and situated.[20]

[17] *Ibid.*, p. 27.

[18] *Ibid.*

[19] *Ibid.*, pp. 3–4.

[20] *Ibid.*, p. 22; cf. also pp. 24, 26.

VII. DOMESTIC AND INTERNATIONAL EQUILIBRIUM

Gervaise next proceeds to furnish his remedies for the interrelated problems of domestic monetary stability and of balanced international accounts.

If a country finds that its exchange rate is overvalued, the remedies are either deflation—"proportion the People to the Denominator"[21]—or a lowering of the exchange rate. But, since a policy of deflation "is most difficult, and almost impossible"[22] to enforce, a lowering of the exchange rate must be preferred. This may be accomplished either (1) by taxation, using the funds to establish a sinking fund for national debts or setting the proceeds aside for future contingencies, i.e., the establishment of a fund which could be used to supplement the normal supply of the domestic currency at the reduced rate of exchange, or (2) by raising the price of coin.

A rise in the price of coin, maintains Gervaise, would reduce the amount of outstanding credit, since a greater proportion of the volume of monetary transactions could now be conducted with the same amount of coin. Raising the price (i.e., denomination) of coin would accordingly bring about the desired monetary contraction. But Gervaise cautioned against *severe* contraction, maintaining that the hardship caused would be greater, the longer and the more severe had been the credit expansion. If the credit expansion were "new and sudden," it might rapidly disturb the allocation of incomes but not the allocation of resources, for the mobility of resources between "necessary" and "superfluous" manufactures is not a short-term process. Consequently, as long as the misalloca-

[21] *Ibid.*, p. 29.

[22] *Ibid.*

tion of resources is not serious, trade may not greatly suffer. However, when the credit expansion is of long standing, the resource structure becomes badly skewed, with an excessive amount of factors being sucked into the production of "luxuries" and an inadequate amount remaining for the production of "necessary manufactures." So that, if after several years of such expansion a nation suddenly followed a policy of stringent contraction, the remedy, in effect, might be disastrous. Granted that the demand for "luxuries" would be greatly reduced and the demand for "necessities" increased, but so rapidly and to such an extent that, after the short run, the manufacturers of necessities would be unable to meet the extraordinary demand facing them. Only after the long run would an adjustment be reached, i.e., a period of time sufficiently long to attract from the "luxury" industries the workers which the manufacturers had lost to them during the period of inflation. But this may entail a long period of misery and privation. For these reasons, Gervaise stands resolutely against a policy of rapid and stringent monetary contraction, advocating, instead, a policy of gradualism, with the maintenance of a sufficient stock of foreign reserves to cushion the effect of a serious external drain.[21]

In concluding his discussion on the mechanism of adjustment, Gervaise states that, although foreign borrowing constitutes a mark of indebtedness, it nonetheless may be a healthy instrument for the development of a country and is entirely compatible with maintaining equilibrium in its international accounts —as long as the "Confidence" and the "Fear" of foreign investors are kept in balance. If, however, fear outstrips confidence, then foreign borrowing may become a disequilibrating force, with the degree of disequilibrium depending upon the degree of fear and the size of the foreign debt. Monopolistic conditions must also be considered, for if a country pro-

[21] It is interesting to note that Henry Thornton, some eighty years later, similarly elaborated on this point. The lack of balanced judgment on this entire issue makes it worth while to quote, *in extenso*, Thornton's brilliant testimony on the effects of a severe restriction of the paper of the Bank of England. When such a restriction is "Sudden and Violent," he testified, "it must tend, by the convulsion to which it will lead, to prevent gold from coming into the country rather than to invite it, and thus to insure the danger of the bank itself" (*op. cit.*, p. 122). Later (1802), with comprehensive brevity, he concluded:

"The Bank, by proceeding to that reduction of its own paper which is necessary to bring gold into the country, may possibly annihilate, before it is aware, a part or even almost the whole of the circulating country bank notes, and much other paper also; and it may, in that case, have to supply gold sufficient to fill the whole void, perhaps more than the whole void, which it has created; for it may be called upon to furnish large additional sums which may forthwith be hoarded in consequence of the alarm thus occasioned. Hence, even though it should increase the supply of gold from abroad; it may augment, in a far greater degree, the demand for it at home. For this reason, it may be the true policy and duty of the bank to permit, for a time, and to a certain extent, the continuance of that unfavourable exchange, which causes gold to leave the country, and to be drawn out of its own coffers: and it must, in that case, necessarily encrease its loans to the same extent to which its gold is diminished. The bank, however, ought generally to be provided with a fund of gold so ample, as to enable it to pursue this line of conduct, with safety to itself, through the period of an unfavourable balance, a period, the duration of which may, to a certain degree, be estimated, though disappointment in a second harvest may cause much error in the calculation" (*ibid.*, pp. 152–53).

The similarity between the discussion of Gervaise and that of Ricardo on the importance of "the severity and extent" of an inflation in considering satisfactory stabilization measures is also striking. Both suggested, implicitly or explicitly, that devaluation would be the closest available approach to justice if an inflation had prevailed for many years and many of the existing contracts had been entered into on the basis of depreciated currency. For a discussion of Ricardo's views on the matter see Jacob Viner, *Studies in the Theory of International Trade* (New York: Harper & Bros., 1937), pp. 204–5.

cures a larger share of world gold, as compared to its relative share of real world income, then it will be found that other nations "are either subjected or indebted to it."[24]

VIII. CRITICISMS AND CONCLUSIONS

While Gervaise is guilty of several technical errors of omission, if not of commission, in his analysis of the international mechanism of adjustment, he presents a far more precise and more systematic exposition of the nature of domestic and international equilibrium than does any previous theorist known to me. Consistently maintaining the free-trade position, he states that in each country productive resources will be allocated among different industries in accordance with the productive capacities of the people and their "geographical" situation, clearly suggesting that the relative abundance and scarcity of factors—quality considered—is an important determinant of domestic and international specialization.

The most outstanding features of his discussion are his analysis of the self-regulating mechanism of international adjustment, whereby specie obtains its proper international distribution, and his application of the mechanism, in a generalized form, to both stable and fluctuating exchange rates.

Isaac Gervaise was also responsible for one of the earliest statements of the relation between the specie and nonspecie elements of the currency upon prices. He stated correctly that the total means of payments is *a* determinant of prices. He did not, however, explain the international mechanism of adjustment *predominantly* in terms of fluctuations in relative prices, although he did suggest the importance of changes in relative price structures. His explanation runs in terms of a "rate-of-expenditure approach." In fact, to my knowledge, Gervaise is a pioneer in the use of this approach to determine the proportion in which the money income of a country must be expended between native commodities and imports to achieve domestic and external equilibrium; that is, net consumption of country X must not exceed the production of country X if it is to have sufficient exports to pay for its imports; and, conversely, production of country X must not exceed its net consumption if all other countries are to be able to maintain a sufficient volume of exports to pay for their imports.[25] Gervaise integrated these two advances—his penetrating analysis of the relation between total means of payment and prices and his effective use of the rate-of-expenditure approach—to provide what was in all probability the first systematic exposition of the mechanism of adjustment in terms of the role of fluctuations in the nonspecie as well as in the specie elements of the currency. In taking this forward step, he analyzed the relation between national and international equilibrium, placing much emphasis upon the level of consumption and exports, production and imports; the role of foreign exchange rates and costs; and the relative fluctuations of import, export, and domestic prices. These contributions alone are sufficient to insure him a rank of first importance in the history of international equilibrium theory.

Further, Gervaise deserves recognition for his treatment of time lags and unemployment. In stressing the importance of transition, as well as equilibrium analysis, he perceived some of the methodological problems for the solution of which economists are still attempting to devel-

[24] Gervaise, *op. cit.*, p. 34.

[25] See above, eqs. (1) and (2).

op satisfactory techniques. But even in his hands the tortuous analysis of time lags was not without its limitations. For, although he came close to the present-day explanation of how a country with a depreciated credit currency reaches equilibrium with an outside world having a metallic standard, his formulation stopped short, and, instead of maintaining that equilibrium would be reached, he claimed that unemployment would set in, and further disequilibrium take place. Here Gervaise fell into error, for he did not show under what *particular* assumptions this disequilibrium would occur, nor did he specify the assumptions underlying his position that a reduction in imports or a rise in the price of gold would necessarily curtail the demand for credit. Yet these aberrations and those stemming from his inadequate treatment of velocity are understandable when one takes into account the monetary and banking practices of his time. But aberrations they were, nonetheless.

Finally, the importance of Isaac Gervaise as a contributor to the general equilibrium theory of the international mechanism of adjustment rests in no small measure upon his purely scientific formulation of his theories and his clear, mathematically illustrated exposition of them at a time when such precise formulation, free of moralistic preoccupation, was scarcely known to economic literature.

A FUNCTIONAL CRITERION FOR WAGE APPRAISAL[1]

HARRY HENIG
Illinois Institute of Technology

I. INTRODUCTION

THAT there may be distortions in market wage structures is a proposition economists accept without question; that a rule or criterion can be serviceable toward identifying particular wage rates as distorted is a view less widely favored. Thus Professor Reynolds writes:

> It is impossible to subject this line of argument [allocation of resources] to any factual test. In the absence of a highly competitive labor market, there is no way of determining whether the wage levels of different industries actually bore a "proper" relationship to one another in 1928, or 1934, or any other year. Since 1934 the wage levels of some industries have risen much more than others. Ross has presented evidence that the more strongly unionized industries have had larger wage increases than those less highly unionized. Even among the solidly unionized industries one finds very different rates of wage increase. But how can one judge the desirability of what has happened? Do the changes of the past twenty years represent a correction of inequities which existed in preunion days, or do they represent an additional distortion of the wage structure as the critics of unionism allege? Perhaps steelworkers should earn $20 per week more than cotton textile workers, and coal miners $30 per week more than workers in manufacturing. Who is to say what constitutes equity or what is a "normal competitive relationship" among different wage rates?[2]

But even economists who regard wage distortions as identifiable seldom indicate an explicit principle by which to appraise particular rates as proper, excessive, or insufficient. Generally, economists have limited themselves to an examination and indication of deficiencies in certain popular criteria used in wage negotiations, such as minimum budgets, cost of living, ability to pay, etc. A few writers, it is true, have gone further than this. Of these, Professor Clark has developed "a theory of economically sound wage adjustments, formulated in terms that might actually serve as guides to negotiators, mediators and arbitrators."[3] Such a theory, he believes, could "serve to create at least a prima-facie case against gross departures. It is distinct from the theory of what governs actual wages, but can have a two-way relation to it. The actual forces may be of a character calculated to depart from the ideal in one direction or another; and this may afford contributory evidence as to where the ideal standard lies. And the economically correct standard may come to have an increasing effect on actual wage adjustments."[4] Thus, in contrast to Reynolds, Clark offers a criterion serving both to appraise particular wage rates as "ideal" and to influence "actual wage adjustments."

This paper rejects Reynolds' position and indorses that portion of Clark's dealing with the possibility of formulating a defensible wage criterion for the purpose of judging distortions in

[1] I am deeply indebted for constructive suggestions to Milton Friedman, H. Gregg Lewis, Rush Greenslade, H. Liebenstein, and H. A. Simon.

[2] Lloyd G. Reynolds, *Labor Economics and Labor Relations* (New York: Prentice-Hall, Inc., 1949), p. 408.

[3] J. M. Clark, *Guideposts in Time of Change* (New York: Harper & Bros., 1949), p. 172.

[4] *Ibid.*

the wage structure, though my specific criterion differs from his. Clark's optimism, however, that there "should be a fighting chance of making such a standard approximately effective in practice"[5] seems, for reasons to be given, ill founded except within the framework of a rather completely controlled economy. Less far-reaching than Clark's position, my criterion is offered only as a yardstick for appraising wages in the actual labor market as proper, excessive, or insufficient. Such a yardstick can be serviceable; for example, a conclusion (through the criterion) that rates are generally and approximately correct leads to different policy proposals regarding the wage structure and related institutions than does a conclusion that rates are generally and substantially distorted.

The wage standard independently developed and defended in this paper can be interpreted as a restatement of Professor Simons' position. He was the first, to the best of my knowledge, to formulate a general and useful rule for the appraisal of wage rates.[6] Simons' position and mine appear to reinforce each other; and both constitute only a special application of the elementary economic proposition that there is a price (wage) which tends to clear the market. My analysis is in terms of partial equilibrium and assumes either that there is full employment or that a particular wage change has no significant impact on the wage level, the prices of factors other than labor, or the general price level.

II. THE FORMULATION OF A CRITERION

Certain aspects of labor-market wage structures need to be examined for their relevance to the formulation of a wage criterion.

1. A standard which indicates as proper rates equal to the marginal revenue product of labor is clearly not meaningful.[7] Since equality between these two magnitudes is generally a condition of an equilibrium wage, competitive or monopolistic,[8] the criterion would, in effect, simply indorse the status quo. Suppose, for example, that a union succeeds in raising a wage above a previously existing competitive level. At the higher rate, the employer would curtail employment, thereby achieving a new, higher marginal revenue product of labor equal to the higher wage. Furthermore, since the previously existing competitive wage implied a condition at which the amount of labor supplied was equal to the amount demanded, it follows that at the higher wage the number of workers desiring employment would be greater than the number demanded. Nor need we suppose that idle labor necessarily constitutes an effective force toward a wage reduction consistent with its re-employment. Through a variety of coercive tactics, a union can deny an employer access to workers, and vice versa, though the employer stands ready to buy, and individual workers to sell, labor at less than the union rate.

2. The attempt to appraise wages by reference to all the restrictive practices which may affect them is generally not feasible. Let us regard as the competitive equilibrium wage that which would exist in the absence of all monopolistic prac-

[5] *Ibid.*, p. 177.

[6] See below, n. 15. I think it is fair to say that Simons stated a position but did not undertake to develop its implications.

[7] By a wage or wage rate I mean labor cost outlay per man-hour or per unit of effort.

[8] Exceptions are possible, as in cases of monopsony and oligopsony.

tices on both the demand and the supply sides of labor. We want, then, to know the relationship of the existing to the competitive rate. In so far as there are effective restrictions on the supply side of labor (e.g., stringent regulations controlling the admission of apprentices), we may safely conclude that the wage for *journeymen* is higher than competition would have set—hence is excessive. In so far as there are restrictive practices on the demand side (e.g., collusion among employers), we may safely conclude that the wage is lower than competition would have set—hence is insufficient. But in many instances it would be a virtually impossible task to discover and gauge all the monopolistic forces restricting both demand and supply and thus determine on balance whether their net pressure has been toward a higher or a lower than competitive rate.

The problem of appraising wages as monopolistically high or low in terms of restrictive practices is difficult even when these practices relate to only one side of the labor market. The United Steelworkers, to consider the supply aspect, has generally been regarded as a powerful union. Nevertheless, one cannot always be confident that this organization has played an important role in raising the compensation of its members above the competitive level. Rees has concluded, for example, that collective bargaining in the basic steel industry during the inflation of 1945–48 did not significantly affect wages.[9] Monopsony, to consider the demand aspect for labor, suggests that wages, even when at equilibrium, are below the level that competitive bidding would have established. But the fact that a firm is monopsonistic may, for all practical purposes, be extraordinarily difficult or even impossible to demonstrate.

A criterion which sought to appraise wage rates by discovering all the restrictive forces impinging on them, and evaluating each for its potency, would in effect simply indorse competitive equilibrium rates. I regard such wages as economically correct, but their utilization as a standard is feasible only on the condition—unlikely to be generally fulfilled—that discovery of the relationship between existing and competitive wages is not an unreasonably difficult task.

3. Yet the problem of developing a serviceable wage standard is not hopeless. We know that wage rates can be responsible for labor shortages (excess demand) and labor surpluses (excess supply) and that such rates, by failing to clear the labor market, obstruct the attainment of an efficient allocation of labor among alternative uses. It is this proposition, it will be maintained, which affords the basis for a feasible criterion for wage appraisal.

Shortages and surpluses may be self-correcting or persistent; obviously their significance depends largely on their nature in this respect. Shortages are generally self-correcting. Suppose that a competitive buyer of labor requires additional manpower as a result of an increase in the demand and price of his product. Marginal revenue product would rise above the wage rate; and the firm would engage additional manpower at the original rate (available since it is not monopsonistic) until equality between the two magnitudes had been attained. This is not a case of labor shortage, since additional workers are available for the individual firm at the rate it is currently paying. If, however, many competitive firms require additional labor—enough to

[9] Albert Rees, "Postwar Wage Determination in the Basic Steel Industry," *American Economic Review*, Vol. XLI (June, 1951).

bid wages up—no single firm could escape from the rise in wages. Until wages do rise, there is, indeed, a shortage of labor. But the shortage would automatically correct itself as wages automatically rose. At a certain higher wage the amount demanded would equate the amount supplied.

Given a shortage, competitive buyers of labor, seeking to maximize profits, are induced to raise wages. Except for the influence of union contracts freezing rates for their duration, excess demand tends to vanish. Similar analysis applies in the case of monopsony. If the wage is below equilibrium, the monopsonist is overrestricting his demand—an overrestriction which performs the function of excess demand or shortage under competition.[10] In this case the monopsonist, seeking to maximize profits, is induced to raise wages to their equilibrium level, thereby canceling the overrestriction of demand.[11]

There remains to be considered the labor-market situation in which there are labor surpluses which fail to correct themselves through automatic wage adjustments. Wages may continue at a rigid level, responsible for surpluses, as a result of trade-union pressure, employers' fear of retaliation even from nonunionized workers, and still other reasons. What purpose, if any, would be served by lower wage rates, at which these surpluses would not exist?[12]

A wage rate at which there is a continuing surplus of labor is a rate at which some qualified workers are unable to obtain employment in their trade. These workers will remain unemployed unless they transfer to different and, presumably, lower-paying jobs. Of course, if rigid wage rates also prevail at the lower level, the unemployed will be shut out there too. The effect of these rates, whether due to unionism, custom, or inertia, can be thought of as the existence of idle labor which otherwise would have been employed, or as a distortion in the distribution of labor, from uses where it would be more, to uses where it would be less, advantageous. This is the traditional position regarding the consequences of noncompetitive wage rates.

The case against surplus-creating wage rates, however, need not rest on the allocation-of-resources thesis. The waste which orthodox economics indicates will be a consequence of these rates is *merely* economic and therefore not necessarily tragic. But there are other values. The wage that denies employment where qualified workers would otherwise obtain it is a regulation that denies freedom. This is what Simons meant when he said: "Freedom of migration implies freedom of qualified workers, not merely to seek jobs but to get them; free entry implies full employment for all qualified persons who wish to enter."[13] And it is hardly a comfort that rigid wage rates which deny freedom may have been im-

[10] For a discussion of the concept of overrestriction of demand see Oscar Lange, *Price Flexibility and Employment* (Bloomington, Ind.: Principia Press, 1944), pp. 35–44.

[11] There may, however, be considerations restraining the monopsonist from granting a wage increase. He may fear, for example, that an increase granted now cannot be rescinded later (because of, say, the resistance of a strong union) when the demand for his product may fall. This would be a situation of overrestriction of demand failing to impel its own correction (see n. 16 below).

[12] Our question deals with the effects of lower wage rates, not of lowering wage rates. As will be indicated in Section III, the fact that a wage rate may be correctible only by administrative authority does not establish the case for invoking such authority.

[13] Henry Simons, *Economic Policy for a Free Society* (Chicago: University of Chicago Press, 1948), p. 141.

posed in ignorance of their evil consequences.[14]

On the basis of the developments in this section we can now formulate the following wage criterion: A particular wage in a particular labor market is *proper* if at that wage the labor market tends to be cleared; is *excessive* if at that rate a surplus of labor continues to prevail; is *insufficient* if at that rate a shortage continues to prevail.[15] The criterion implies that the wage rate is responsible for the continuation of the surplus (shortage) and that a reduction (increase) in the rate—whether automatic or imposed—is the condition for the elimination of the surplus (shortage).

Appraisal of wage rates by use of the criterion requires a determination that at these rates the labor market is cleared or is characterized by surpluses or shortages. In so far as shortages are generally self-correcting, the significant task becomes that of determining whether or not a surplus exists. The general test—indeed, the meaning—of a surplus is the availability of qualified workers seeking but failing to obtain employment at the prevailing rate.

III. CRITERION: NORM OR INSTRUMENT FOR WAGE ADJUSTMENTS

As a norm or yardstick, a criterion can be useful. By indicating distortions it directs attention toward the arrangements and structures (e.g., unions, customs, job-evaluation plans, minimum-wage legislation, enterprise monopoly, industry-wide bargaining) which may contribute toward these distortions and affects our appraisal of these arrangements and structures.

A criterion's usefulness as a norm, however, depends of course on its basic soundness: Does it, in fact, effectively point toward economically correct wages? In the previous section we have already developed the argument regarding the validity of the recommended standard; in the first half of this section we, in effect, extend this argument by evaluating various objections that might be raised against it even in its limited role as a norm.

But the criterion may conceivably be regarded, as Clark regards his, as an instrument for action, a bulwark against gross departures from correctness, a standard impinging on market behavior. The criterion as an instrument for action is dealt with in the second half of this section.

1. CRITERION AS NORM

It is difficult to foresee all the objections that might be raised against the criterion as a norm; impossible in the limited space available to answer all those that can be foreseen. The objections that appear to me as particular-

[14] A surplus-creating wage rate is a form of price-fixing comparable in some respects to rent control. The latter is a device for effecting a redistribution of income mainly from landlords to tenants and for allocating a limited amount of housing on a "first-come, first-served" basis. A surplus-creating wage rate effects a redistribution of income mainly from the surplus workers to those retaining employment at the monopolistic rate; and it allocates the limited number of jobs to the latter group. The rationale sometimes applied to rent control does not, however, appear applicable to wage control. Redistribution of income from landlords to tenants may *conceivably* be justified by considerations relating to the distinctive socioeconomic position of each of these groups; on the other hand, redistribution from some workers to other workers in the same labor classification would be altogether arbitrary.

[15] Simons observed as follows: "The proper wage in any area or occupational category is the lowest wage which will bring forth an adequate supply of labor in competition with other employment opportunities. . . . In other words, it is a wage which will permit the maximum transfer of workers from less attractive, less remunerative, less productive employment" (*op. cit.*, pp. 140–41). Our formulation is consistent with this position, i.e., the wage bringing forth an "adequate supply of labor" and permitting the "maximum transfer of workers" is that at which the market is cleared.

ly important are presented below (in italics), followed by my answers.

A. *In so far as the criterion is meant to serve as a norm, it is not functional; and, in so far as it is functional, it is only a restatement of a trite theoretical observation that there is a price which clears the market.* The criterion is functional in that it serves to identify as proper rates which tend to clear the market, that is, which contribute toward an effective allocation of labor, and serves to identify as either excessive or insufficient such rates as fail to attain this end. But though functional in this sense, the criterion *is* only a special application of a trite and general economic proposition that there is a price which clears the market. I am not certain, however, that the consequences from the application of this general proposition are entirely obvious. It should be noted specifically that if wage adjustments were made in accordance with the criterion they would not necessarily achieve a completely competitive labor market. Such adjustments would not, for example, eliminate all monopolistically high or monopsonistically low wage rates.[16] Various types of noncompetitive wages, though resulting from restrictive practices on the demand or supply side of the labor market, need not evidence themselves by the surplus-shortage approach. The criterion herein proposed has no relevance to these situations. To illustrate, we revert to two situations previously mentioned. A wage may be in equilibrium despite restrictive practices on the demand side, such as monopsony; and this wage would not be associated with a labor shortage in the usual sense of the term—that is, that the buyers stand ready to absorb the entire quantity of labor offered at a higher than existing wage. A wage may be in equilibrium despite restrictive practices on the supply side, such as stringent apprenticeship regulations; and this wage would not be associated with a labor surplus in the usual sense of the term—that is, that qualified workers (journeymen) seek but are excluded from employment at the prevailing rate.[17] Thus the range of maladjustments over which the criterion can be serviceable as a standard is identical with and limited to the range over which surpluses and shortages can be ascertained to exist. But, even in this limited capacity, the criterion might indicate a wage structure radically different from that now prevailing. To illustrate, let there be several labor markets, each operating under different conditions of demand and supply from the others. A uniform rate, established by industry-wide wage-fixing, would then fail to clear all markets (except possibly one) through which it extended. The uniform rate would be improper (excessive or insufficient) in all markets where it failed to achieve clearance.

[16] A monopsonistic rate below equilibrium is like a competitive rate below equilibrium, in that profit maximization requires a rise in the wage to equilibrium. As indicated in n. 11 above, a monopsonistic below-equilibrium rate implies overrestriction of demand, the function of which is identical with that of excess demand or shortage under competition. The term "shortage" as used in the criterion embraces both competitive and monopsonistic below-equilibrium rates. But it is the fact of shortage, not monopsony, which the criterion utilizes in establishing the case that a wage is insufficient.

Quite different is the situation where the monopsonist's rate is in equilibrium, or above equilibrium but below the level indicated by the intersection of the marginal revenue product and the labor-supply curves. Here the monopsonist is paying a wage less than marginal revenue product but *not* operating under the condition of overrestriction of demand or shortage. In this case the criterion does not indicate that the wage is insufficient.

[17] I am indebted to Professor H. Gregg Lewis for a significant comment on the above situation. There *is* a labor surplus, he points out, at the level of apprentices. This surplus, further, implies that a wage reduction from the monopolistically high rate for qualified journeymen would presumably produce only a temporary shortage of these workers—temporary because the union would no longer have an incentive for restricting entrance into the trade.

B. *A criterion which indicates only shortages as a basis for upward wage adjustments fails to support increases in enterprises which may be able to bear them without adverse employment effects (e.g., monopsonies and oligopolies).* Suppose that we could identify a particular firm as monopolistic or oligopolistic; that we knew the approximate amount by which rates could be raised in this firm without an adverse employment effect; and that we believed this increase were desirable on certain grounds. I should see no objection then to supplementing the criterion in this or similar cases by subsidiary wage standards. Our criterion is general but not exclusive. Yet in most cases, for reasons already given, a judgment that a wage is too low (in the sense that various restrictive practices operate to depress it below a competitive level) is extraordinarily difficult to make. A simpler and yet serviceable determination is that a wage is too low in so far as it is responsible for a labor shortage. Similarly, it is possible but very difficult, through the use of subsidiary criteria, to appraise wages as too high (in the sense that restrictive practices operate to raise wages above a competitive level). A simpler and yet serviceable determination is that a wage is too high in so far as it is responsible for a labor surplus. Attempts to appraise wages by subsidiary criteria which propose to evaluate all restrictive practices are likely to resolve themselves into a search for competitive equilibrium wages. Such rates, we have already pointed out, can serve as an economically correct wage criterion, but only if they are known or their relationship to existing rates is known. Otherwise their use as a wage standard is not feasible.

C. *The criterion has as one of its supports the proposition that a wage lower than that prevailing, given a surplus, would lead to an expansion of employment opportunities; but, even if such a wage were realized, the anticipated consequence might be long delayed.* Our position, however, must not be interpreted as a contention that a lower-than-prevailing rate will necessarily lead to a rapid expansion of employment opportunities. Equipment may be so specialized that additional workers cannot be used effectively, no matter how much the wage rate may fall. Consequently, substitution of labor for other factors or the expansion of labor associated with an increase in output of the product may be delayed. Here we must distinguish between short- and long-run consequences.

D. *The criterion indicates maladjustments but fails to specify the exact amount necessary for their correction.* The criterion is meant, however, to serve only as an arrow pointing in the right direction, not as a precise measuring stick. It indicates distortions from a norm but does not presume to specify the exact amount necessary to offset these distortions. But considering the perversity of wage adjustments sometimes actually made in the real world, we may well regard crude direction-markers as a tremendously valuable guide. If a reduction of twenty cents would clear the market, a reduction of fifteen cents would nevertheless be desirable.

E. *The criterion implies that wage adjustments would operate to reallocate labor. It can, however, be argued that labor is not mobile in response to wage opportunities. Since there is no necessity for an employer to pay as much as another in the same labor market, wages can hardly be regarded as performing an allocation function.* The condition of equality of wages for workers of given skill in the same labor market follows in part from the assumption that workers will move from lower- to higher-paying jobs. In the

former wages will rise, in the latter they will fall—until equality is attained. Sometimes this analysis is challenged by the observation that workers do not, in fact, respond to the best possibilities in the market. This misses the point. In the first place, not all workers need to transfer from lower- to higher-paying jobs; only enough, marginally speaking, to exercise an effect of such magnitude, through supply, that wages tend toward equality. Second, traditional theory regards mobility as the mechanism by which wages of workers of identical skill come to equality; if mobility prevails, so will wage equality. But it would be charging orthodox economists with gross imperceptiveness to attribute to them the conviction that mobility always characterizes the labor market, that is, that workers always move to the jobs with the highest returns, even when those jobs are not available because of wage rigidity.

Several empirical studies show that there is considerable disparity in rates among workers of apparently the same efficiency in the same labor market. It is puzzling that this finding should be regarded by some economists as a reason for questioning the validity of traditional theory. Disparity in wage rates is precisely the state of affairs that theory leads us to expect in the real world—in the absence of a standard rate, monopolistically imposed. Given wage flexibility, there would be only a tendency (real, though never necessarily realized) toward equality. Given wage inflexibility, there need be not even a tendency in this direction. Given actual equality of wage rates, the logical inference is the existence of monoply, not competition.

It is sometimes observed, to consider a different aspect of this problem, that wage adjustments affect labor reallocations less than do nonpecuniary considerations. It is enough for our purpose, however, to indicate that wage changes will lead to a reallocation of manpower—whether or not nonpecuniary changes may be more potent than pecuniary changes toward this end. It must, furthermore, be emphasized that even in a competitive labor market there would be continuing wage differentials among workers of identical skills. When economists refer to an equality of wages in a broad sense, it is understood that they mean an equality in the totality of employee returns, pecuniary and otherwise. Nothing in the criterion argues for an equality of wages among firms, given a compensating inequality of nonpecuniary returns; and, in so far as inequality of wages is compensated by inequality of nonpecuniary returns, nothing in this situation suggests either that the wages of any of these firms are improper or that the allocation of labor among them is less than optimum.

F. *The criterion relates to the pricing of human services but leaves untouched the pricing of products.* There is no reason, however, why the acceptance of a norm need be deferred pending an attack on business monopoly, or vice versa. Given business monopoly, there is still no justification for surplus-creating or shortage-creating wage rates. The arguments against them apply whatever the degree of restriction in the product market. Unless adjusted, these wage rates are responsible for distortions adding to, rather than offsetting, those caused by business monopolies.

2. THE CRITERION AS AN INSTRUMENT FOR WAGE ADJUSTMENTS

Clark believes that a criterion of sound wages could be "formulated in terms that might actually serve as guides to negotiators, mediators and arbitra-

tors."[18] But can there be a socially sound wage standard acceptable to both unions and management, though it points to adjustments which they regard as unfavorable to their respective interests? Trade-union officials and businessmen are not likely to impose on themselves the wage settlements which economists, for reasons more subtle than obvious, regard as proper. Clark is, indeed, fully aware of the self-seeking character of individuals and groups. He feels, however, that his standard has a chance for eventual acceptance in the market place.

> It is not at all out of the question that the influence of a great federation might be thrown in favor of the kind of wage standard we have just been considering; though this might have to wait for industrial relations to make some further progress toward maturity, with a dwindling of the emphasis on wage issues and a compensating increase in the attention paid to other phases of the relation of a worker to his job, to his superiors and to his fellow workers. . . . Another thing that might make for a two-sided attitude is the development by unions of activity—for example, banking or cooperative distribution—in which the union becomes itself an employer. . . . Another thing that might work in the same direction, in a way only slightly different, is the growth of labor representation in business or industry.[19]

And there are still other developments, he indicates, which might in time lead to fundamental modifications in union and employer attitudes. I cannot here comment on each of these eventualities. But Clark's (or any) socially useful criterion will be adopted by the participants in the market place only when and if existing institutional arrangements appear, from their point of view, to have been appropriately altered—as Clark thinks they may in time be.[20] Furthermore, the institutional changes over time need not conform to Clark's pattern, so that his wage standard preconceived to conform to that pattern might possibly turn out to be archaic.

The residual possibility for insuring wage adjustments in accordance with a sound criterion is the utilization of government authority. Consider now a national wage board charged with the responsibility of determining and enforcing correct wage rates throughout the economy, in peace as well as in war. This board would not only resolve wage rates in dispute cases but would also review even those rates acceptable to both unions and employers, adjusting them toward the economically correct level. Assume that the national wage board operated at optimum efficiency and that each decision reflected exclusively the merits of each case, never subservience to pressure groups. This type of widespread government wage-fixing would certainly invite an extension of controls over product prices, if for no other reason than that unions would not likely submit to wage-fixing without the *quid pro quo* of price-fixing. And I think that economists generally will accept the thesis (though I say nothing here in its support) that government determination of relative wages and prices throughout the economy may be presumed to lead to

[18] *Op. cit.*, p. 172.

[19] *Ibid.*, pp. 184–85.

[20] Clark seems to believe that competition in the labor market might follow from breaking up unions (*ibid.*, p. 182), though he does not recommend such action. But the destruction of labor organizations would not necessarily lead to a significant degree of wage flexibility, i.e., to a type of labor market within which a criterion like ours would automatically be brought into effect. A nonunionized labor market might be characterized by inflexible wages due to custom, inertia, etc. It may, however, be true that nonunionized rates are more flexible, downward at least, than unionized. In so far as this is the case, a labor surplus associated with a collectively bargained wage will persist longer, in a period of declining prices, than a surplus involving nonunionized workers.

various other direct controls. Thus we start with an interest in attaining economically correct wages and in our zeal for this desirable objective may end with a highly regimented economy. It is preferable, it seems to me, that wages be set crudely as they now are (e.g., sometimes at uneconomic levels) than that economically correct rates be achieved at the possible cost of regimentation.

IV. OTHER CRITERIA AND VIEWPOINTS

Other criteria and related viewpoints considered by economists appear to me to fall within three categories: (1) a position narrow in scope but analytically defensible; (2) a position wide in scope but analytically indefensible in certain important respects; and (3) a position denying the traditionally affirmed wage-employment relationship upon which our criterion rests.

1. Slichter has formulated a definitive, but restricted, wage position. Thus:

> If workers supply more skill and effort, they should be paid more. Such an advance in wages does not represent a rise in the price of labor; it simply represents larger payments in return for greater effort and greater skill. Quite different, however, is the case of increases in productivity which are the result of better management or of technological progress.
>
> There are two basic objections to increasing wages in a given company or industry in proportion to the rise in the output of that company or industry brought about by better management or technological progress.
>
> One reason is that such increases would introduce unjustified inequalities into the wage structure of the community. The rate of technological progress varies greatly among industries. . . . If wages were increased in these various industries in proportion to the rise in productivity, the wage structure would soon have little relationship to the skill and responsibility required of the workers or to the relative attractiveness or unattractiveness of working conditions. Common laborers in technologically advancing industries would be receiving far more than skilled workers in other industries.[21]

This is a definitive wage position, but it lacks generality. The reference, for example, to "an advance in wages" for "more skill and effort" can be subsumed under our criterion.[22] Consider that workers in a company or industry (not labor generally) can now provide more efficiency units than originally, not only in their present employment but to whatever employing agency they may transfer. At the original rate for an hour of work, a given expenditure of money would now be purchasing a larger and therefore more valuable output.[23] If the original rate cleared the market, its retention following an increase in skill and effort must be responsible for a labor shortage. An appropriate wage advance would, however, clear the market.

The situation is different, as Slichter points out, in "the case of increases in productivity which are the result of better management or of technological progress." Here the firm or industry (if not monopsonistic) can obtain additional manpower, identical in efficiency with that already employed, at the rate it is currently paying. Since labor is available at the current rate, there is no labor shortage, and no case for the position that the wage is insufficient by either Slichter's formulation or my own. We have come to the same conclusions, though by different routes.

I am sure that if Slichter had ad-

[21] Sumner H. Slichter, *Basic Criteria Used in Wage Negotiations* (Chicago: Chicago Association of Commerce and Industry, 1947), pp. 22–23.

[22] "An advance in wages" in this case does not properly represent a wage increase. The latter refers to an increased payment for a given level of skill and efficiency.

[23] Output would be larger but not necessarily more valuable if all workers in the given firm or industry retained employment after the increase in efficiency. If they did, the total output of the firm or industry would expand; the value of output would then relate to the elasticity of demand.

dressed himself to the task of formulating a widely applicable criterion, he would have developed a position under which the situation quoted above, or any specific wage situation, could have been subsumed. We need to know, for example, what wage adjustments may be appropriate even though effort, skill, management, and technology remain unaltered. The greater, that is, the scope of a criterion (given its validity), the greater its usefulness.

2. Clark's "theory of economically sound wage adjustments" is wide in scope and in its most general aspect comes essentially to a recommendation that the "increased average real wages for the whole economy [should] depend on increased average productivity. As a first approximation and a point of departure, it may be assumed that they should increase at the same rate that productivity increases, maintaining their customary proportion to the whole product."[24] The emphasis here is on "average increase in man-hour productivity for the whole economy,"[25] not on productivity increases in particular industries. If productivity increases are general throughout the economy, real-wage increases should also be general. This broad position is then supplemented by several specific recommendations relating to wages in particular industries.[26] Particular wages, according to Clark's criterion, need not necessarily rise proportionately to the average increase in productivity throughout the economy. For example: "If one industry has led in improvements or is otherwise in a position to pay more than the average increase in productivity, it may equitably share a part of the excess gain with its workers; but not generally more than average productivity could catch up with in a few years."[27] And the converse of this proposition: "If the industry is a declining one, and the market will not stand a rise in prices without serious reduction in output and employment, the resulting hardship may be shared between subnormal profits and subnormal wages, where it is to the workers' interest to bear a share of the hardship, as the alternative to an unduly sharp shrinkage in employment."[28]

As to Clark's general position, it should be noted that any wage criterion —if it is to encounter even a moderate degree of acceptance from economists— must state or imply a positive correlation between productivity and wages. It is not clear to me, however, just how Clark would determine the percentage increase in money wages that would in fact achieve the desired percentage increase in real wages justified by the upward movement in productivity. We do not know, in other words, that a 10 per cent increase in money wages would mean a 10 per cent increase in real wages, since a change in the former could be followed by a quite disproportionate change in the price level. It could, of course, be contended that an approximation is good enough. But, if so, Clark's criterion becomes superfluous, since no one would dispute that what he proposes happens anyway, that is, that in the real world general productivity increases do in fact lead to real increases in the wage level and that the latter is an approx-

[24] *Op. cit.*, p. 173.

[25] *Ibid.*, p. 175.

[26] Though my own method of formulating a criterion centers on a consideration of particular rates and not the wage level, I must nevertheless consider Clark's aggregative approach (average increase in productivity), since his modifications for particular industries are meant to be appraised within his general position.

[27] Clark, *op. cit.*, p. 175.

[28] *Ibid.*, p. 176.

imation of the former. The productivity criterion might, it is true, be used *ex post* to indicate that real wages have not risen enough or have risen too much, but it is not useful *ex ante*, since it fails to predict the effect on real wages of a further change in money wages. In any case, "productivity" is an ambiguous term, though I can appreciate Clark's reluctance to become involved, for the purpose in hand, in the more refined notion of marginal productivity. My own preference therefore is to abandon the notion of productivity altogether as a formal element toward the construction of a wage criterion.

Clark's criterion, in so far as it affects particular wage rates, seems to reflect his obviously correct position that productivity increases in a *particular* industry must not be the *essential* consideration in wage-setting in that industry. This is recognizable as a proposition falling within the framework of traditional analysis. It is another way of saying that workers in a particular classification would in the absence of restrictive practices tend to receive compensation equal to their productivity in their highest alternative use. Nevertheless, as a matter of practical necessity, Clark indorses wage rates in particular industries deviating somewhat from productivity changes throughout the economy. Thus, as already indicated, an industry which has led in improvements might be expected to pay more than the average wage increase; and conversely for a declining industry. Unfortunately his search for a criterion that "may come to have an increasing effect on actual wage adjustments" (i.e., his desire to be practical) leads Clark into an indorsement of what is clearly uneconomic. Thus his criterion is weak analytically at the level of reference to particular wage rates. Comment on its feasibility (or rather any criterion's feasibility) in the market place as a basis for actual wage adjustments was made in the previous section.

One other fundamental observation regarding Clark's criterion needs to be made. Analytically, the wage adjustments that may be most important from the standpoint of a sound criterion would appear, for reasons given earlier in this paper, to be those which operate toward the elimination of surpluses or shortages; and, even if the criterion recommended in this paper places too much emphasis on this approach, it could hardly be denied that surpluses and shortages are evidence of wage maladjustments and that a "theory of economically sound wage adjustments" cannot altogether ignore these maladjustments. But Clark's proposals regarding particular wage adjustments have no direct relationship to the phenomena of shortages or surpluses. If in terms of these phenomena some wage sare initially too high and others too low, they are likely to remain distorted though wages throughout the economy are increased following a general productivity increase and though wages in particular industries are modified in accordance with considerations indicated in the last paragraph. Clark's criterion is therefore consistent analytically and practically with the perpetuation of already existing wage distortions.

3. Some economists deny the validity of the traditional wage-employment analysis[29] upon which our criterion rests.

[29] Denial of the traditional wage-employment relationship is a proposition which may be mistakenly identified with another, namely, that unions do not or cannot *consider* the effect of wage increases on employment. For a discussion of the latter position see Shultz and Myers, "Union Wage Decisions and Employment," *American Economic Review*, XL (1950), 362 ff., and K. R. Petshek, "Employment as

Thus Reynolds makes the following observations:

> What will happen when wages are raised, no other change in the firm's situation having occurred meanwhile? The first effect is to reduce the profit margin of the company. If the previous profit margin was so large that the new wage level is still below the wage maximum of the firm, this may be the only effect. So long as estimated sales volume remains unchanged, there is no reason to expect any appreciable effect on production or employment."[30]

I question whether this argument is an effective refutation of the conventional analysis.[31] For that "this may be the only effect" (reduction in profit margin) appears to have meaning only in the sense that virtually anything may be true in the real world for particular firms at particular times, especially in the real world where at least occasionally businessmen behave irrationally. Again, "there is no reason to expect any appreciable effect on production or employment." No one, of course, expects any "appreciable" effect from an inappreciable wage increase. If, however, the wage increase were appreciable, just how would the circumstance that "estimated sales volume remains unchanged" fail to induce "any appreciable effect on production or employment"? Will firms (not just an occasional firm, since the author apparently attributes general validity to his position) retain a stolid indifference to cost changes simply because profit margins are favorable? And, a point not made clear, will they retain this indifference in the long as well as in the short run?

But even if "the new wage level is above the wage maximum of the firm"[32] reduction in employment need not result. This is an application of that curious conviction that there exists a fundamental relationship between prices and quantity bought in all kinds of markets, except that for labor. The reason in this instance, according to Reynolds, is that "a sudden reduction in the profit margin, however, may galvanize management into action. There may be a fresh scrutiny of costs and an effort to prune them to the lowest possible level. Success in this direction raises the firm's wage maximum and may even restore profit margins to their previous level."[33] Here, too, we must admit that this result is possible, as is virtually anything. But I know of no substantial evidence that, in the general case, an increase in wages does not lead to an increase in labor costs and in total costs. Without such evidence, it would seem prudent to believe that businessmen generally do not wait until adversity galvanizes them into action; that if they can prune costs after a wage increase, they could and would have done so before; that they do not maximize profits *only* when failure to do so would mean ruin.

Finally, "even after the ingenuity of

an Element in the Wage Bargain," *Quarterly Journal of Economics*, LXIV (1950), 633 ff.

[30] *Op. cit.*, p. 398.

[31] In the discussion above I examine the case against the traditional wage-employment analysis and conclude that it is weak. I do not, however, presume by this exposition to have established the affirmative of the proposition. Defense of this proposition involves entering into a debate which is by now extremely trite. I hope that I shall not be charged with entering into that debate if I remark that it always seems to become sidetracked. The issue, to my mind, is not whether employers engage labor until its marginal cost approximately equals its marginal revenue product but whether enterprisers generally seek to relate the quantity of inputs (of any kind) to their prices. The conclusion that they do derives from the assumption of profit maximization. Given this assumption, the principle of marginal productivity is indisputable. The proper subject for consideration, therefore, is the validity of the profit maximization assumption.

[32] Reynolds, *op. cit.*, p. 398.

[33] *Ibid.*, p. 399.

management has been exhausted the wage ceiling can still be raised through added effort by the workers themselves."[34] But when an economist speaks of wages in relation to employment, he generally refers to wages paid for a given level of effort. For greater output per hour, the payment of additional money does not constitute an increase in the generally accepted sense and does not represent a situation relevant to the proposition that there exists a functional relationship between wages and employment.

Reynolds concludes as follows: "It is usually possible, then, for a union to raise the money wage level of a plant, and it is often possible to raise wages with little or no reduction in employment."[35] The second half of this sentence is either false or deceptive. It is true without being deceptive only if rephrased somewhat as follows: the fact that an employer pays more money than before for an hour's work need not lead to a reduction in employment if, at the higher compensation, he obtains a higher marginal revenue product; if, however, the employer pays more money for the same output, *ceteris paribus*—whether or not he was originally operating at a large or a small profit margin—he will curtail employment, unless the original wage was below the equilibrium wage and unless the assumption of profit maximization is invalid.[36] It is, furthermore, the latter situation—a change in a wage rate for a given amount of work—which economists have in mind when discussing wages in relation to employment. And to continue: "There is some tendency, however, for unions to be too optimistic about wage-raising possibilities and to push an occasional employer over the cliff by inadvertence."[37] The general, over-all impression left in the reader's mind is clear: There is no good reason why unions should not press for higher wages; this goal is generally attainable without fear of unemployment. Success is, however, a little more problematical when higher wages unduly squeeze profit margins. But, even so, there is no occasion for alarm, since the rise in wages may well be offset by greater efficiency. And, finally, unions should not go too far because, if they do, they will "push an occasional employer over the cliff by inadvertence." Here, if my interpretation is correct, is the virtually complete indorsement of monopolistic wage-fixing; the reservation relates only to the effect of undue optimism, and then only in so far as this optimism affects an occasional employer. This, I believe, is a fairly typical presentation of the case denying the traditional wage-employment analysis.[38]

[34] *Ibid.*, p. 400.

[35] *Ibid.*, p. 401.

[36] There are, of course, various hypotheses other than profit maximization by which to explain entrepreneurial behavior. Economists who see in these alternative hypotheses a priori validity do not, I believe, claim for them, as is claimed for the profit maximization assumption, *general* validity.

There is, however, a difference between general and universal coverage of a hypothesis. I must, in this connection, disagree with Professor Reder, who chides economists for failure to "delimit its [the marginal productivity theory's] range of applicability, and the reader is left with the impression that the authors believe the theory to be valid for all firms and at all times" (M. W. Reder, "A Consideration of the Marginal Productivity Theory," *Journal of Political Economy*, LV [1947], 451). I do not know of *any* conclusion concerning entrepreneurial activity which *any* theoretician regards as defensible "for all firms and at all times." And, furthermore, does an economist *always* have to remind his readers that he regards his generalizations as no better and no more widely applicable than the quality and scope of their underlying assumptions?

[37] Reynolds, *op. cit.*, p. 401.

[38] Elsewhere in his book Reynolds indicates his acceptance of a special case of the wage-employment connection, *if wage increases apply to all firms*

The position of economists regarding the effects of wage adjustments, though not always formalized, can sometimes be implied from the specific labor-market practices which they indorse, such as job evaluation, minimum-wage legislation, industry-wide wage-fixing, etc. Indorsement of the rates established through these institutional arrangements amounts to a repudiation of the criterion of this paper—except in so far as these rates serve to supplant others, at least equally noncompetitive. Let newly established rates resulting from job evaluation, etc., be higher than the previously existing rates. The new rates will then be responsible for the creation of surpluses, in so far as at the old the market had approximately been cleared; the new rates will amplify surpluses, in so far as at the old surpluses had already existed. Let newly established rates resulting from these practices be lower than the previously existing rates. The new rates will then be responsible for the creation of shortages, in so far as at the old the market had approximately been cleared; the new rates will amplify shortages, in so far as at the old shortages had already existed.

V. CONCLUSIONS

Economists occasionally reason as if the labor market were a restricted province, subject to special laws but immune to the general body of economic analysis. If, for example, enterprise monopoly leads to a diminution in the amount purchased, monopoly wage rates—the price of the human factor—need have no such consequences, due to the convenient availability of offsetting arrangements. Indeed, there sometimes appears in the literature an acceptance of a functional relationship between prices and quantity purchased in all types of markets except labor, where presumably a benevolent hand annuls this connection.[39] This is a point of view which leads some economists to regard wage rates as facts almost disassociated from the current of economic activity. These rates could rise or fall, but "who is to say what constitutes equity, or what is a 'normal competitive relationship' among different wage rates?"[40] Of course, no one "is to say" if economists abdicate from their professional responsibility. What is the position represented by the quotation except an indorsement of "anything goes"?

We have therefore preferred Clark's position that a standard of economically correct wages can be constructed, though not indorsing his productivity criterion. Particular market rates, it seems to us, can best be appraised as proper or distorted in terms of their determinable significance for the allocation of labor. Rates are proper in this sense when they operate toward clearing the labor market; excessive, when responsible for labor surpluses; insufficient, when responsible for labor shortages. This criterion is wide

throughout the industry. "No one firm in a competitive industry could raise its price level just because its costs had risen. When the costs of all producers in the industry are raised, however, as the result of a general wage increase, an increase in prices is very likely to follow" (*ibid.*, p. 405). But though no one firm in a competitive industry could raise its price level, Reynolds must still show that it would not curtail employment.

[39] The only citation possible in support of my general characterization of the literature of the labor market is the literature itself. As Professor Boulding says: "One can hardly pick up a new book on labor nowadays without finding the author jumping gleefully on what he thinks is the corpse of Demand-and-Supply, or proclaiming with trumpets, 'The Labor Market Is Dead, Long Live Human Relations'" (Kenneth E. Boulding, "Collective Bargaining and Fiscal Policy," *American Economic Review*, XL [1950], 306).

[40] Reynolds, *op. cit.*, p. 408.

in scope; consistent with the traditional position affirming a functional relationship between wages and employment; and more plausible, it appears to me, than certain alternative views that I have examined. But rates which clear the market are not necessarily synonymous with competitive equilibrium wages. We cannot say with confidence what such wages would be if they did exist; and generally they could exist only after the attainment of competition, which is to say, after the destruction of all the restrictive practices, monopolistic and monopsonistic, affecting the purchase and sale of labor.

We do not attribute to our criterion, as Clark does to his, a general effectiveness toward modifying wage structures in the real world. Labor and management, pressing for their own respective interests, can hardly be induced to cooperate toward the establishment of such wages as economists may regard as sound. Short of government wage-fixing, a criterion is hardly likely to bear significantly on the course of market rates. Yet the determination of distortions—the criterion as a norm—serves an important purpose: if rates are appraisable as distorted, various institutional arrangements can be judged, and perhaps even altered, in terms of their role in causing these distortions.

THE AMERICAN BUSINESS CYCLE OF 1879–85[1]

RENDIGS FELS
Vanderbilt University

ACCORDING to the National Bureau of Economic Research, there was a business cycle in the United States of America which, counting from trough to trough, began in March, 1879, and lasted until May, 1885.[2] There has been very little research done on this cycle. So far as I know, the only intensive work done on it in recent years was by Arthur G. Auble in his unpublished doctoral dissertation.[3] Schumpeter[4] and others have made some scattered comments on it, but the best published accounts are those written by contemporary observers. The *Banker's Magazine* of New York had a number of good articles, particularly on international influences. The London *Economist* discussed the American scene at length from sources which in many cases are now difficult to find; it also contributed reports and comments of its own. In 1886 Carroll D. Wright published a study called "Industrial Depressions."[5] Devoted almost entirely to the depression of 1882–85, it is known to modern economists as a forerunner of the mature economy thesis. But the best original source is the *Commercial and Financial Chronicle*, which had an insight into the workings of the cyclical mechanism which was quite good in view of the little that was then known about cycles.[6]

The purpose of the present article is to narrate the history of the 1879–85 cycle and to analyze it with the help of modern business-cycle theory. In order not to break the continuity of the story, discussion of evidence and comments on recent literature will be relegated to footnotes whenever possible.

I. THE LOWER TURNING POINT (1877–79)[7]

The panic of 1873 was followed by a long depression. Just when the depression came to an end cannot be dated with any certainty, partly because data are lacking, but mainly because there is an ambiguity in the concept of a lower turning point. Available evidence indicates that physical production may have turned upward as early as 1877. It is

[1] The Institute of Research and Training in the Social Sciences of Vanderbilt University provided financial assistance which made this study possible. I also wish to acknowledge numerous helpful suggestions made by Earl J. Hamilton.

[2] Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles* (New York, 1946), p. 78. There is no dispute whatever in the literature about the existence of this cycle, though there is some difference of opinion about its exact dating. Cf. the investigators cited by Burns and Mitchell on p. 108.

[3] "The Depressions of 1873 and 1882 in the United States" (Harvard University Library, 1949).

[4] Joseph A. Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process* (New York: McGraw-Hill Book Co., 1937), I, 339–40 and 383–96, *passim*.

[5] *First Annual Report of the Commissioner of Labor* (Washington, D.C., 1886).

[6] See particularly the annual review articles, to be found in the first or second issue of each year (also in *Financial Review*, published by the same company). The bimonthly *Investors' Supplement to the Chronicle* frequently had illuminating comments in its lead article.

[7] In part this section briefly summarizes Section VI of my article "American Business Cycles, 1865–79," *American Economic Review*, XLI, No. 3 (June, 1951); but the discussion of the dating of the lower turning point is new.

possible that real income per capita rose during the last two or three years of the 1870's. Monetary series, on the other hand, reached their troughs distinctly later. Bank clearings began to increase in 1878, but wholesale prices continued to decline into 1879. By the spring of the latter year, a process of cyclical expansion plainly got under way; but should the trough be dated then or earlier?

and to avoid giving a precise date to the trough.[5]

External events strongly influenced the lower turning point. Long-term investment prospects began to revive about 1877. But the contraction of spending continued, partly from previous momentum, partly because under paper standard conditions international trade did little to brake the fall, partly because the prospect of returning to the gold standard on January 1, 1879, at a higher exchange rate than then prevailed cast doubt on the future course of prices, and partly because prices were highly flexible. The contraction in spending for the time being prevented the improved investment prospects from taking effect. By the beginning of 1879 the situation

TABLE 1*

ANNUAL STATISTICS FOR THE UNITED STATES, 1878-80

	1878	1879	1880	1881	1882	1883	1884	1885	1886
1. Manufacturing	32	36	42	46	49	50	47	47	57
2. Transportation and communication	28	32	36	40	44	45	46	46	51
3. Crop production	51.5	54.5	56.0	47.0	62.0	58.5	65.0	64.5	63.5
4. Building index (value)	4.0	4.1	5.4	6.7	8.9	10.4	10.5	11.2	12.9
5. Railroad miles built	2,665	4,809	6,706	9,846	11,569	6,745	3,923	2,975	8,018

* Source: 1. *Manufacturing:* Edwin Frickey, *Production in the United States, 1860–1914* (Cambridge, Mass., 1947), p. 54 (Base = 1899); 2. *Transportation and communication: Ibid.*, p. 117 (Base = 1899); 3. *Crop production:* C. M. Purves, "New Index of Crop Production in the United States," *The Agricultural Situation*, January 1, 1935, p. 4 (1910–14 = 100); 4. *Building:* United States Bureau of the Census, *Historical Statistics of the United States, 1789–1945* (Washington, D.C., 1949), p. 173 (Newman's index of permit values in current prices, 1920–30 = 100); 5. *Railroad miles built: Ibid.*, p. 200, first differences of column 1.

It is clear from business-cycle theory that a rise in physical output tends to stimulate a further rise in physical output because it becomes profitable to replace or expand capacity; and it is equally clear that a fall of aggregate money payments tends to shrink spending still further because it reduces income. Moreover, rising output will tend to raise spending, and a decline in spending will tend to lower output. If output and spending are both rising, we are in a period of cyclical expansion according to most economists' definitions; and if they are both falling, we are said to be in a period of cyclical contraction. But if one is rising and the other falling—as appears to have been the case in the latter 1870's—we are not in a period of either expansion or contraction. It is best to call such a period a "transition"

[5] Nothing in the text is intended as criticism of the National Bureau's selection of March, 1879, as the trough. They selected their dates for use in statistical analyses which required them to specify exact months. In cases of doubt, they "placed the reference turn toward the close of the transition period" (Burns and Mitchell, *op. cit.*, p. 80). As there is plenty of room for doubt in this instance, their procedure naturally yields a date early in 1879.

If I had to select a particular date for the trough, I should pick the second quarter of 1878, which was the low in Frickey's (revised) series of outside clearings. It may very well be that, if we had complete information, it would show an upturn in both spending and physical output at about that time.

had changed. The United States successfully returned to the gold standard, reviving confidence; and good crops in 1879, coupled with unusually poor crops in Europe, gave business in the United States a decisive stimulus that invigorated the tentative cyclical expansion which had already begun.

To a considerable extent railroad builders were occupied by the task of completing the main lines of roads which they had had to stop constructing as a result of the panic of 1873.[10] It was in this period, for instance, that the Northern Pacific completed its route. Even more important was construction of

TABLE 2*

QUARTERLY STATISTICS FOR THE UNITED STATES, 1878–85

	1878				1879				1880				1881			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Liabilities of business failures($000,000)	74.0	57.4	65.1	36.5	38.8	26.7	15.0	16.8	11.5	23.6	11.9	20.3	22.0	19.4	9.9	29.5
2. Exports ($000,000)	186	169	214	176	172	178	198	198	201	246	239	213	223	234	220	172
3. Imports ($000,000)	106	104	111	111	111	113	128	164	181	194	166	153	153	169	169	179
4. Wholesale prices	94	91	91	88	86	86	88	99	103	100	99	99	98	101	105	108
5. Outside clearings ($000,000)	995	956	1,033	1,008	1,079	1,180	1,234	1,475	1,499	1,477	1,438	1,571	1,658	1,783	1,926	1,924

	1882				1883				1884				1885			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Liabilities of business failures($000,000)	30.0	20.2	18.5	31.4	34.6	32.7	51.1	53.5	36.2	90.1	55.5	44.4	39.4	36.2	26.3	22.7
2. Exports ($000,000)	181	186	205	195	221	204	192	182	188	179	187	193	181	177	157	171
3. Imports ($000,000)	184	192	194	162	174	173	166	174	170	158	157	144	137	140	150	162
4. Wholesale prices	106	110	111	106	103	103	99	97	95	94	93	89	85	85	85	85
5. Outside clearings ($000,000)	1,842	1,849	1,948	1,927	1,929	1,945	1,900	1,888	1,881	1,859	1,658	1,590	1,597	1,641	1,669	1,827

* Source: 1. *Liabilities of business failures*: U. S. Bureau of the Census, *Historical Statistics of the United States, 1789–1945* (Washington, D.C., 1949), p. 249 (seasonally adjusted); 2. *Exports*: *Ibid.*, p. 341 (seasonally adjusted); 3. *Imports*: *Ibid.*, p. 340 (seasonally adjusted); 4. *Wholesale prices*: *Ibid.*, p. 344 (I have adjusted for seasonal variation, using seasonal index given by *ibid.*, p. 326 [1910–14 = 100]). 5. *Outside clearings*: This series has previously been published only in chart form. See Edwin Frickey, *Economic Fluctuations in the United States: A Systematic Analysis of Long-Run Trends and Business Cycles, 1866–1914* (Cambridge, Mass., 1942), chart facing p. 138. Professor Frickey very kindly furnished me with the figures on which this chart was based. (Seven selected cities, seasonally adjusted.)

II. THE UPSWING (1879–81)

Construction of railroads was the principal factor in the upswing. The number of railroad miles built rose spectacularly from 2,665 in 1878 to 11,569 in 1882. No accurate estimate of the amount of money invested in railroads during these years is possible, but it plainly was large enough to dominate the picture.[9]

[9] *Historical Statistics of the United States, 1789–1945* (Washington, D.C., 1949), gives on p. 201 some annual estimates of investment in railroad and equipment, and it is tempting to use the first differences as estimates of annual investment in railroads. The peak obtained in this way falls in the year 1881 and exceeds $900 million as against a slightly negative figure for 1878. This may be compared to Martin's estimate of realized national income of $7,227 million in 1879 (Robert F. Martin, *National Income in the United States, 1799–1938* [New York: National Industrial Conference Board, 1939], p. 6). However, *Historical Statistics* obtained the figures for railroad investment from *Poor's*, and examination of the original source has convinced me that the series is not sufficiently accurate to warrant using its first differences. In fact, when *Poor's* itself estimated the amount of investment in railroads for 1881, it did so by multiplying the number of miles built by $25,000, which it estimated was the average cost of building a mile of road. This too is obviously a hazardous method (see Henry V. Poor, *Manual of the Railroads of the United States for 1882*, p. i).

[10] *Chronicle*, May 23, 1874, p. 516; *ibid.*, January 6, 1883, pp. 7–8; *Investors' Supplement to the Chronicle*, June, 1883, pp. ii–iii.

feeders and branches for parent-lines.[11] In addition, repairs and improvements which had been put off during the depression were now initiated.[12] For the most part, therefore, construction was undertaken not by new enterprises but by established lines to which it was becoming more of a routine operation than a venture into innovation.[13] "The painful process of foreclosure, settlement and reorganization" which had gone on steadily during the depression of the seventies paved the way for the upswing of the early eighties;[14] and in the ensuing downswing the new mileage was in the hands of financially stronger corporations than had been the case following 1873.[15]

Reasons for the spurt in railroad investment are not hard to find. The business cycles of the last half of the nineteenth century all belong to the same family (or Kondratieff cycle) not merely because railroad-building played an important part in all of them but also because the spurts in building were interrelated.[16] Railroads, particularly those west of the Mississippi, were often built ahead of—and enormously facilitated—the growth of population and traffic which ultimately justified them and led to another spurt of railroading.[17] During the seventies population and agricultural output grew steadily so that freight ton-miles increased two-thirds in the six years following the panic of 1873. In the course of the general deflation of the seventies, freight rates had fallen. But, even so, traffic earnings in 1879 were virtually as high as in 1873, and, as a result of the decline in expenses, net earnings were higher.[18] With construction costs and interest rates considerably lower than in the boom of the early seventies,[19] it is easy to see why projects which tempted both builders and investors became more numerous.

But the spurt in railroad investments cannot be explained in terms of favorable objective circumstances alone. Although total net earnings were higher in 1879 than in 1873, net earnings per mile were lower. The improvement in objective investment opportunities initiated the spurt in railroad-building, but it developed only with the combined help of a plentiful supply of capital and a not wholly rational wave of optimism.

As is usually the case at the beginning of cyclical expansion, the money market was easy. Moreover, as was *not* usually the case in the nineteenth century, the upswing developed no more than brief hints of stringency.[20] Not only was domestically mined gold retained but there were large gold imports in 1880 and 1881, partly—perhaps largely—because the foreign-trade balance was favorable. More remarkable than easy money was

[11] *Chronicle*, January 6, 1883, p. 8; *Investors' Supplement to the Chronicle*, August 25, 1883, p. i.

[12] *Chronicle*, September 6, 1879, p. 236.

[13] *Chronicle*, January 6, 1883, p. 8; *Investors' Supplement to the Chronicle*, August 25, 1883, p. i. This routine character of innovation was one of the chief reasons why Schumpeter (*op. cit.*, p. 339) called this period a Kondratieff depression.

[14] *Chronicle*, January 10, 1880, p. 30. See also London *Economist*, May 24, 1879, p. 599, and March 12, 1881, Supplement, p. 28; and *Banker's Magazine* (New York) February, 1880, p. 654.

[15] *Banker's Magazine*, January, 1883, p. 486.

[16] It should be obvious that this is based on Schumpeter, *op. cit.*, *passim*.

[17] Cf. *Banker's Magazine*, March, 1880, p. 712.

[18] *Historical Statistics of the United States, 1789–1945*, p. 201. See also *Chronicle*, January 10, 1880, p. 36.

[19] *Chronicle*, January 6, 1883, p. 8.

[20] See the articles on the money market in the various issues of the *Banker's Magazine* and the *Chronicle* (particularly January 8, 1881, pp. 29–30; January 7, 1882, pp. 8–10; January 6, 1883, pp. 8–9; and January 5, 1884, p. 9). For an extended discussion of this point see Auble, *op. cit.*, pp. 159–75.

the ample domestic supply of long-term capital. Whereas English capital financed a great part of the railroad-building boom which preceded the panic of 1873, American railroads now floated their security issues more largely in the United States.[21] I mentioned above that interest rates were lower than in the earlier period, when bonds were often floated at prices which yielded 10 per cent or more. The change reflected the secular growth of capital in the United States, the general fall in interest rates during the era of falling prices between 1873 and 1896, and the surplus of the federal government which developed during the upswing and was used to retire the national debt, thus freeing funds for railroad-building.[22]

The *Chicago Tribune*, commenting sadly on the overoptimism of 1879–81, said:

> Why is it that in such a time as that, funds are contributed by all classes of people for almost any enterprise whose promoters promise great returns? It is because they see business active all around them, people in enterprises already established winning large profits, and everything apparently inviting them to be rich. They are seized with the craze of money making, and become incapable of reasoning on any project that is presented for their consideration. It is easy for unscrupulous men to humbug them at such a time. Even the promoters of enterprises often half-believe the lies they tell, and partake of the prevailing mania. . . . It is appalling to consider how many of the corporate enterprises of the country have secured their capital by taking advantage of these investment—or, rather, speculative—epidemics.[23]

The word "boom" was first used in its political sense in 1878. It is understandable, therefore, that the first episode of business-cycle history to which contemporary observers applied that word was the expansion of 1879–81, and not without some justification.[24] They were impressed by the growth of speculation. Al-

[21] "We have almost ceased to borrow for corporate undertakings in London and Paris" (*Commercial Bulletin*, September 16, 1880, as quoted by *Banker's Magazine*, November, 1880, p. 323). On the other hand, the London *Economist* (February 18, 1882, p. 7) reported that in the first half of 1881 London subscribed twenty million pounds sterling to new American railroad issues.

Contemporary sources are conflicting in their statements about international capital movements. The December, 1880, issue of the *Banker's Magazine* said on p. 436: "Whether more American stocks and securities have been marketed abroad than have been purchased abroad, during the year past, is a doubtful question" and on p. 484: "The gloomy views which are prevalent in some quarters as to the monetary future, are probably due in part to a want of appreciation of the large amounts of foreign capital which are flowing into the United States to an extent never known before." The same journal in February, 1881, p. 587; March, 1881, p. 678; and April, 1881, p. 753, argued vigorously that during 1880 the amount of railroad shares held abroad diminished. For other statements on international capital movements see *Chronicle*, January 8, 1881, p. 29; London *Economist*, February 18, 1882, Supplement, p. 6; and *Banker's Magazine*, April, 1879, p. 745; November, 1879, p. 329; August, 1880, p. 84; and October, 1883, p. 247. The very conflict of opinion, however, evidences a marked difference between 1879–83 and 1869–73.

[22] George S. Boutwell, "The Political Situation," *North American Review*, February, 1883, p. 158; George M. Weston, "Advantages of Paying the National Debt," *Banker's Magazine*, November, 1882, pp. 328–29; *Investors' Supplement to the Chronicle*, February, 1882, p. ii. It should be remembered, however, that the federal surplus between 1869 and 1873, though smaller, was substantial.

A government surplus is usually regarded as deflationary, but, if investment opportunities are numerous, there is no reason to assume that funds will be hoarded; and if bank credit and long-term capital are in joint demand, the net result of paying off government debt may be inflationary. If the government continues to retire debt after investment opportunities cease to be numerous, it will indeed become deflationary; and, by hastening the exploitation of investment opportunities, it may hasten the cyclical downturn. Hence, it is possible for a government surplus both to accentuate the upswing and to contribute to the downturn.

[23] Quoted by *Banker's Magazine*, March, 1885, p. 688. For similar statements see *Investors' Supplement to the Chronicle*, June, 1884, p. 2; and Anonymous, "Hydraulic Pressure in Wall Street," *North American Review*, July, 1882, pp. 54, 60, and 64.

[24] "Two years covered the whole of the 'boom' commencing in the summer of 1879, and ending in the summer of 1881" (*Banker's Magazine*, November, 1885, p. 339).

ready in November, 1879, the London *Times* said, "The spirit of railway speculation [in the United States] is probably as rampant now as it ever has been."[25] Later the *Banker's Magazine* thought the country had been "on a big speculative drunk."[26] But the doings referred to were largely peripheral. Financial recklessness of the type that led to the panic of 1873 appears to have been much less common,[27] and, however one might wish to define "boom," the word is more applicable to the early seventies than to the early eighties.

Prosperity quickly permeated the entire economy. Already in September, 1879, the steel mills were reported to have orders enough to keep them working at capacity on into 1880.[28] As a result of increased demand by the railroads, the iron and steel industry expanded capacity in accordance with the acceleration principle,[29] and there is evidence in manufacturing of what I call the *superaccelerator*—investment based on the assumption that the *rate of increase* of demand will be maintained in the future.[30] Outside clearings (quarterly) doubled, and the wholesale-price index rose 29 per cent. As the *Chronicle* summed it up: "We built 28,554 miles of new road in the years 1880, 1881, 1882. . . . This stimulated over-production in all the industries contributing to, or allied with, railroad property, which in turn affected every other branch of business in the same way."[31] Moreover, as one commentator pointed out, "every railroad which is constructed, and especially in the West and South, creates fresh opportunities for investments in agriculture, mining, mills and foundries."[32] The annual circular of Messrs. Dun, Barlow and Company for 1879 said, "The number of unemployed is less than at any time within the past seven years."[33] This, of course, was merely an impression which could have been erroneous, but it implies that early in the upswing there were less unemployed than at the cyclical peak of 1873. At any rate, employment seems to have been reasonably full in the early eighties in spite of accelerated immigration, for the *Banker's Magazine* in 1882 remarked, "In this country . . . labor can always find employment."[34] The memory of the unemployment of the seventies would not have faded so fast if unemployment had not been pretty well obliterated for several years.

Though overshadowed by the railroads, construction of buildings was also

[25] Quoted by the London *Economist*, March 13, 1880, Supplement, p. 52. See also *Chronicle*, January 10, 1880, p. 30, and *Investors' Supplement to the Chronicle*, December 31, 1881, p. 1.

[26] January, 1883, p. 486. The *Banker's Magazine* had too many articles on the subject of speculation for me to cite here. These dealt primarily with the growth of speculation as a result of development of organized exchanges. An obviously exaggerated article on this subject is Henry D. Lloyd, "Making Bread Dear," *North American Review*, August, 1883, pp. 124-26. See also *Chronicle*, January 7, 1882, p. 8.

[27] "The depression is not likely to be so severe and last so long as the one that began in 1873. The country has not sunk so much money in bad investments as it had just previous to that event" (*Banker's Magazine*, October, 1883, p. 244).

[28] *Chronicle*, September 6, 1879, p. 236; cf. London *Economist*, January 31, 1880, p. 118.

[29] *Banker's Magazine*, October, 1883, p. 242. Pig-iron production doubled between 1878 and 1882. This involved building a considerable amount of new capacity despite the fact that numerous obsolete blast furnaces were idle even at the peak of prosperity.

[30] *Ibid.*, February, 1883, p. 568. Of course, both accelerator and superaccelerator later contributed to the downturn.

[31] *Investor's Supplement*, June, 1884, p. 2; cf. *Banker's Magazine*, October, 1883, p. 241.

[32] Weston, *op. cit.*, p. 332.

[33] Quoted by *Banker's Magazine*, February, 1880, p. 641. Cf. also the statement that "labor rejoices in fair wages and full employment" in an article signed by twenty-two men, including J. Pierpont Morgan, J. J. Astor, and Cyrus W. Field, "The Political Situation from a Financial Standpoint," *North American Review*, November, 1880, p. 471.

[34] September, p. 162.

an important factor in the upswing. Stimulated by the population increase, the general development of the country by the railroads, and the low level of construction during the seventies, Newman's index of value of construction permits rose two and a half times between 1879 and 1883. Though the index cannot be trusted very far, it gives a rough idea of what was going on.[35]

During the upswing the economy appeared to be peculiarly responsive to the international equilibrating mechanism of the gold standard. The spurt of railroad-building did not develop strongly until the favorable foreign markets of 1878 and 1879 gave the upswing its start. Imports of raw materials rose in consequence of the increased business activity,[36] and manufactured goods were diverted from exports to the home market.[37] Thus a disturbance of equilibrium which resulted in increased exports stimulated consumption and investment, which in turn increased imports and retarded the expansion of exports. The favorable balance of trade increased gold supplies, providing a basis for the expansion of money needed to support increased activity; and, it may reasonably be inferred, higher real income was made possible by rising employment as the unemployed found jobs and as prosperity stimulated immigration.[38] Increased prices in the United States also contributed to the equilibrating process. In the middle of 1880 the cyclical expansion received a brief check. Prices of a number of articles went so high that their markets became flooded with foreign goods, resulting in collapse.[39] There is some evidence, however, that this pause in the upswing was partly a reaction to excessive accumulations of inventories. Aside from this episode, the foreign-trade position continued to be favorable until merchandise imports and exports came into approximate equality toward the end of 1881[40]—just before the expansion died—and did not become favorable again until 1883, that is to say, until (and in part because) the downturn had been passed. No doubt other forces were more important for cyclical developments, and a measure of coincidence is involved. But we have here evidence of the equilibrating mechanism of the gold standard at work, hindering the American economy from getting out of line with other countries.

[35] *Historical Statistics of the United States, 1789–1945*, p. 173. Long's value index tells much the same story as Newman's.

[36] *Banker's Magazine*, July, 1880, pp. 7–9. This magazine displayed some excellent insights into the equilibrating process, and, though they suffered from absence of a theoretical apparatus, they provide striking confirmation of modern ideas about how the gold standard worked.

[37] *Ibid.*, October, 1880, p. 242.

[38] The figures on immigration exhibit a pronounced cyclical movement (see Harry Jerome, *Migration and Business Cycles* [New York: National Bureau of Economic Research, 1926], p. 35). See also *Banker's Magazine*, October, 1880, pp. 274–75. Modern writers on the theory of international trade have generally overlooked the fact that in the heyday of the gold standard, immigration was part of the equilibrating mechanism.

[39] The best discussion of this episode is in the *Chronicle*, January 7, 1882, p. 8; see also January 8, 1881, p. 28. Cf. *Banker's Magazine*, July, 1880, pp. 6 and 77; August, 1880, p. 127; and October, 1880, p. 280. Cf. also London *Economist*, March 12, 1881, Supplement, p. 22.

[40] Exports declined heavily in the fourth quarter of 1881. The *Economist* (February 18, 1882, Supplement, pp. 1 and 10), the *Banker's Magazine* (February, 1882, p. 571, and March, 1882, p. 726), and Lloyd (*op. cit.*, pp. 124–26) emphasized a decline in exports of wheat and other farm products which they attributed to speculators' driving up prices. More important, perhaps, was the decline in crop production (see Table 1); cf. also *Banker's Magazine*, September, 1882, p. 202; December, 1882, p. 405; and January, 1883, p. 486.

The *Banker's Magazine* attributed the rise of imports in the first part of 1882 to rising wages and prices (July, 1882, pp. 1–5).

III. THE UPPER TURNING POINT (1881–83)

Most major depressions begin spectacularly. The famous crash on Wall Street ushered in the depression of the 1930's. Bank panics in 1873, 1893, and 1907 occurred at, or close on the heels of, the downturns of those years. The depression of 1920–21 began with a collapse of prices; that of 1937–38, with a collapse of production.[41] In contrast, the downturn of the early eighties was slow and quiet. The bubble of overoptimism was pricked in the summer of 1881, and the force of the expansion began to die down in the latter part of the year.[42] The following year was generally regarded as unsatisfactory, particularly with respect to profits;[43] yet output and wholesale prices (except for the fourth quarter) continued to rise, and outside clearings remained high. During 1883 business grew steadily worse;[44] nevertheless, some important statistical series such as outside clearings and the index of manufacturing indicate that 1883 was a better year than 1882. Not until 1884 did the contraction become pronounced. It is helpful to single out a particular date to mark the cyclical peak, and the date chosen by the National Bureau—March, 1882—seems to be about right.[45] But it is also helpful to think of the entire period from the middle of 1881 until the end of 1883 as a gradual transition from prosperity to depression.

At the middle of 1881 the basic situation of the railroads was weaker than the overoptimism which normally accompanies a major upswing would indicate. A hard winter had increased expenses and reduced traffic. The spring brought poor crop prospects, implying poor traffic

[41] I do not mean, however, to indorse Keynes's much-disputed statement that "the substitution of a downward for an upward tendency often takes place suddenly and violently" (John M. Keynes, *The General Theory of Employment, Interest and Money* [London, 1936], p. 314). My statement is confined to major depressions; and in several of the cases cited in the text, notably 1929, the upper turning point itself was by no means sudden and violent.

[42] "Indeed, the slackening of speed began in some respects in the last half of 1881; and from the first of July in that year, when the country was temporarily paralyzed by the appalling death of its chief magistrate, there was a change in the spirit of advance, and almost exaltation, which had taken possession of our business world since 1878" (*Chronicle*, January 6, 1883, p. 7). (There is a minor error here. President Garfield, though shot on July 2, did not die until September 19.) See also *ibid.*, January 7, 1882, pp. 10–11; the *Railroad Gazette*, December 30, 1881, p. 742; the statistics of freight ton-miles in *Historical Statistics*, p. 334, and of outside clearings in Table 2. A somewhat rosier view of 1881 can be found in the London *Economist*, February 18, 1882, Supplement, pp. 10–11.

[43] "A careful retrospect of 1882 presents only the view of a diminishing pressure in the force which had pushed everything forward, and by no means a retrograde movement; the gross amount of business was, in some departments at a maximum—the largest ever transacted in a single year—but it was in the net proceeds, in the cash profits realized, that the results were sometimes less satisfactory than in prior years" (*Chronicle*, January 6, 1883, p. 7).

"That there should be such an increase of late in the number of failures, in view of the general prosperity of the country is a very unpleasant fact. The spectacle is presented that, while the trade of the country is not in the most healthy or desirable condition, the country itself was never before more prosperous than at the present moment" (*Banker's Magazine*, February, 1883, p. 568).

[44] "Although this is hardly a time of abnormal business depression, a great part of the industrial energies of the country are unemployed" (Henry George, "Overproduction," *North American Review*, December, 1883, p. 584). See also *ibid.*, pp. 588–89, and *Chronicle*, December 22, 1883, p. 680.

[45] Burns and Mitchell, *op. cit.* Other investigators have put the turning point a bit later. This is odd in view of the NBER rule to take the later date in case of doubt. Partington put the change from prosperity to recession in September, 1882; Kitchin put the downturn in December; Ayres in November; and Persons put the end of prosperity in June of the following year (John E. Partington, *Railroad Purchasing and the Business Cycle* [Washington, D.C.: Brookings Institution, 1929], p. 235; Leonard P. Ayres, *Turning Points in Business Cycles* [New York: Macmillan Co., 1939], p. 29; Joseph Kitchin, "Cycles and Trends in Economic Factors," *Review of Economic Statistics*, January, 1923, p. 14; and Warren M. Persons, *Forecasting Business Cycles* [New York: John Wiley & Sons, 1931], p. 198).

prospects. The booming stock market was "inflated" in the sense that non-dividend-paying shares sold at substantial prices. The fatal shooting of President Garfield in July, which was widely regarded as an event unfavorable to business interests, became the occasion for recognizing these weaknesses. People began to feel vaguely distrustful and insecure. The stock market went into a year-long decline, never in this cycle to regain the peak of mid-1881. It became more difficult to float new securities. The verve had gone out of the expansion.[46]

As time went on, railroad prospects continued to deteriorate. The railroad-building and consolidations of the preceding years led to rate wars, and it was charged that railroad officials sold out securities in their own companies and deliberately prolonged the wars in order to get their securities back at lower prices. During the period of transition from prosperity to depression, rate wars and mismanagement (if not fraudulent management) recurrently undermined public confidence in railroad stocks and bonds.[47]

These events were slow to exert their influence. The railroads built even more miles in 1882 than in 1881.[48] But this added to the belief, which was already gaining ground at the beginning of the year, that railroads were multiplying too rapidly to be profitable.[49]

As a result of these developments, and in spite of the favorable harvest of 1882 and the revival of optimism it engendered,[50] the difficulty in raising capital for railroad-building became pronounced by the end of 1882. According to the *Railroad Gazette*, "We would have built even more [railroads] than we have in 1882, if capital had been as easy to get for such purposes during and after as before the railroad war and the bad harvests."[51] Moreover, "it is said that it is now [the end of 1882] almost impossible to get capitalists or their representatives to listen to a proposition to take part in any new railroad enterprise. There is a good deal of work in hand, however, some of which makes slow progress because of the difficulty of getting money, but for most of which means seem to have been provided already."[52] As in 1873, there was no lack of railroad routes to be built—the peak in number of miles added was not reached until 1887—but, unlike 1873, there was scarcely any evidence of a lack of capital seeking invest-

[46] *North American Review*, July, 1882, pp. 54–55; *Banker's Magazine*, August, 1881, pp. 87–88, 157, and 159; London *Economist*, February 18, 1882, Supplement, p. 10. It is difficult to believe that the assassination of Garfield had as much effect as the latter two references claimed.

[47] London *Economist*, February 18, 1882, Supplement, pp. 8 and 10–11, and February 23, 1884, Supplement, p. 7; *Banker's Magazine*, January, 1882, p. 567; March, 1882, p. 690; January, 1883, pp. 482 and 558; September, 1883, p. 238; and October, 1883, p. 316; *North American Review*, July, 1882, pp. 54–55 and 59.

[48] Various evidence could be assembled in an effort to date the peak of railroad investment (cf. the discussion in Auble, *op. cit.*), but I do not think it profitable to do so. The number of miles built, which reached its peak in 1882, is obviously an unreliable guide.

[49] London *Economist*, February 18, 1882, Supplement, pp. 7 and 10; *Banker's Magazine*, December, 1882, pp. 405–6 and 479, and October, 1883, p. 242.

[50] *Banker's Magazine*, July, 1882, p. 77. There was a real connection between good harvests and good business not only because good crops meant larger traffic for the railroads but also (and more important) larger exports of crops meant more spending by farmers on American products. This relationship was well known in the latter part of the nineteenth century. Hence, good crop prospects regularly increased confidence.

[51] December 29, 1882, p. 804.

[52] *Ibid.* See also December 30, 1881, p. 743. Cf. *Banker's Magazine*, May, 1882, p. 886; January, 1883, p. 486; and October, 1883, pp. 315–17; and London *Economist*, February 23, 1884, pp. 2–3 and 5.

ment.[53] Apparently capitalists were unwilling to put money into railroads. Their unwillingness evidently stemmed from belief that further building would not prove profitable.[54] Their money did not find outlets in other forms of permanent investment but either remained idle or went into the money market.[55] And as railroad-building was great enough to dominate the upswing, its decline is enough to account for the major downturn, though federal debt retirement and worsening of exports were contributory causes.[56] Compared to the early seventies, railroad financing was on a strong basis; hence, there was at the time of the turning point no financial debacle like the panic of 1873.

IV. THE DOWNSWING (1883–85)

The downswing of the early eighties was severe enough for most investigators to rate it a major depression.[57] Statistics and contemporary comment alike bear out the view that, although not so bad as the 1870's, 1890's, or 1930's, the depres-

[53] A hint that railroad-building declined because of shortage of capital is contained in an article in the *Investors' Supplement to the Chronicle*, June, 1883, pp. ii–iii: "It will be asked, then, why was not the improvement in [railroad stock] prices maintained when abundant harvests [in 1882] became an assured fact? Because it was found that the derangement of various industries resulting from the decline in railroad building, poor crops of 1881, &c., together with the more important fact that the market had been loading up for three years with new railroad securities, were more serious matters than at first supposed, and their lasting effect had been underestimated." But the article went on to say: "Then there has been some apprehension as to the effect of the opening of so many new lines of road—the Nickel-Plate, the New York Lackawanna & Western, the West Shore & Buffalo, the St. Paul line to Omaha, the Chicago Burlington & Quincy to Denver, the Atlantic & Pacific, the Denver & Rio Grande to Utah and Ogden, &c., &c. There was also in the past few months a return movement of stocks this way from Europe, mainly of the speculative sort, which were sent back after the holders had lost the hope of making money by a great rise in their prices." This sounds more as if the boom came to an end because it had spent its inner force than because it was throttled by lack of capital.

[54] Carroll Wright's conclusions may be cited in support of the statement in the text. "This full supply of economic tools to meet the wants of nearly all branches of commerce and industry is the most important factor in the present industrial depression" (*op. cit.*, p. 257). He particularly singled out the railroads: "In the United States the mileage of new railroads constructed has been out of all proportion to the increase of products to be carried" (*ibid.*). Wright's opinion should, perhaps, be discounted, inasmuch as he wrote at the bottom of the depression and seems not to have realized that the capital equipment of the country would not have been so superabundant if there had been full employment. Nevertheless, Wright was one of the best qualified of contemporary observers, and his conclusions should be regarded as a primary source of considerable importance.

The sentences quoted occur in the well-known "stagnationist" passage of Wright's book. The present essay cannot contribute much toward assessing his stagnationist views, the test of which lies in the depressions of the nineties.

[55] *Banker's Magazine*, October, 1883, p. 316. Cf. London *Economist*, February 23, 1884, pp. 2–3.

[56] If we accept the NBER date of March, 1882, for the cyclical peak and take the evidence of number of miles built as showing that railroad investment did not decline sooner than the latter part of 1882 (both assumptions could be questioned), we have to explain how the cyclical downturn could precede its cause. But this is not difficult. We can attribute the cyclical downturn initially to international trade developments and argue that the results would have been no more serious than in 1880 (see above) but for the decline in railroad investment.

[57] Thus Persons (*op. cit.*, p. 7) called it a "major depression," Axe implied that it was a severe depression (Emerson W. Axe, "Generally Low Prices and Cheap Money Suggest a Bull Market This Year," *Annalist*, January 16, 1931, p. 92), and Schumpeter (*op. cit.*, p. 396) called it a "Juglar recession and depression." Hubbard and Eckler both put it in the same category with 1907–8, Hubbard calling it a "decline of considerable severity," Eckler a "decline of the third order of magnitude" (Joseph B. Hubbard, "Business Declines and Recoveries," *Review of Economic Statistics*, February, 1936, p. 18, and A. Ross Eckler, "A Measure of the Severity of Depressions, 1873–1932," *Review of Economic Statistics*, May, 1933, p. 79). Burns and Mitchell are jointly an exception, excluding it from their list of severe depressions; but they concede that it is the most severe of those they exclude in the period between 1873 and 1933 (*op. cit.*, pp. 455, 458, and 462).

sion of the early eighties was no mere recession. But, like the depression of the seventies, it was severe primarily in financial series like outside clearings and wholesale prices rather than in indexes of production. As Carroll Wright said, "The volume of business and of production has not been affected disastrously by the depression, but . . . prices have been greatly reduced, wages frequently reduced, and margins of profits carried to the minimum range."[58]

The downswing gathered momentum slowly in 1883. The decline in railroad construction not only eliminated the jobs of many workers directly employed in railroad-building[59] but also spread depression to other industries.[60] As one would expect from the theory of the acceleration principle, the iron and steel industry was particularly affected.

> In January, 1880, steel rails were worth $71 per ton; in December, 1883, large contracts for steel rails were placed at $33 to $35 per ton. American pig iron was worth at the earlier date $35 per ton, and about January 1, 1884, it sold at $20 per ton. . . . Blast furnaces were blown out; rail mills were shut down; wages were reduced; hands were discharged. Other branches of mining and manufacturing suffered increasingly as the year wore on, and in the later months there was quite a general movement towards curtailing production and reducing all possible expenses, including the wages of operatives.[61]

At first producers tried to maintain output. As a result they either accumulated inventories they did not want or induced dealers to take them by offering longer dated bills. But the stocks hanging over the market put pressure on prices, and more and more firms failed as their bills fell due. Production declined, and, in spite of abundant money, banks became reluctant to make new loans.[62] Belief that prosperity was just around the corner gave way to general pessimism before 1883 was over.[63]

Though the railroads appeared to be at the bottom of the trouble, their own business in physical terms was better than ever. Nevertheless, railroad stocks declined as the public, their faith in railroad managers diminished, tried to unload securities that had no prospect of yielding an income.[64] Though railroad profits in the aggregate probably held up pretty well, in many particular instances they were disappointing. Profit prospects declined more than actual profits because of the general business depression, poor

[58] *Op. cit.*, p. 254. In the same volume (pp. 65–66) Wright estimated unemployment in 1885 at 7¼ per cent compared to normal unemployment of 2–2½ per cent, but his methods of estimation were not such as to inspire confidence in the results (see also T. V. Powderly, "The Army of the Discontented," *North American Review*, April, 1885, p. 369). For a vivid but probably exaggerated description of the unemployed see William Godwin Moody, "Workingmen's Grievances," *North American Review*, May, 1884, p. 505.

[59] Wright (*op. cit.*, pp. 242–43) cited with approval the estimate of Edward Atkinson that half a million less workers were employed in railroad-building in 1883 than 1882 and added that the estimate had never been contradicted. There is no reason for confidence in the order of magnitude indicated (the less so since a decline in miles built of less than one-half was supposed to reduce the number of workers employed by two-thirds), but, if the cyclical mechanism had not been working in the way indicated, somebody would have denied Atkinson's estimate and Wright would have heard about it.

[60] *Chronicle*, January 5, 1884, p. 8.

[61] *Ibid.* Cf. *Banker's Magazine*, December, 1882, p. 405, and London *Economist*, February 24, 1883, Supplement, p. 32. Pig-iron production, however, was only a trifle lower than in 1882 (*Historical Statistics of the United States, 1789–1945*, p. 149). This was due partly to inventory accumulation, partly to lower prices which reduced imports (London *Economist*, February 24, 1883, p. 27).

[62] *Banker's Magazine*, June, 1882, p. 971; February, 1883, p. 568; August, 1883, pp. 92–93; September, 1883, pp. 161–62; and October, 1883, pp. 315–16; London *Economist*, February 23, 1884, Supplement, pp. 30 and 50.

[63] *Banker's Magazine*, October, 1883, p. 241.

[64] *Chronicle*, January 5, 1884, pp. 9–10.

crops, and increasing competition among railroads.[65] Thus the stage was set for a further decline of railroad-building in 1884.

In that year the pace of the downswing accelerated. Frickey's index of manufactures shows a decline for the first time during this cycle,[66] and outside clearings, whose cyclical peak occurred in the third quarter of 1883, declined drastically in the second half of 1884. As expected, railroad profits declined, and, though the percentage decline in aggregate earnings was not large, it is hardly surprising that the number of railroad miles built suffered a further decline in 1885.

The year 1884 was also marred by a bank panic in New York. On May 8 a brokerage firm named Grant and Ward failed, dragging down with it the Marine National Bank, which had overcertified a Grant and Ward check for $750,000. Five days later the Second National Bank had to close its doors because the president had stolen three million dollars. A run caused the Metropolitan Bank to close the next day, and panic ensued: stock prices plummeted as attempts were made to raise cash and recall call loans. Interest at one point rose to 4 per cent for twenty-four hours, country banks started to recall their funds, and there were many more failures or suspensions. It is plausible to think that the coincidence of the Marine and Second National Bank failures started panic only because it occurred at a time of increasing business depression; but the government's silver policy, which undermined confidence, was a contributory cause.[67] The panic did not last long. Steps were taken immediately to issue clearing-house certificates. The defalcation of the Second National was made good, and both it and the Metropolitan reopened at once. Capital flowed in from Europe to take advantage of high interest rates and low stock prices. Confidence returned quickly. During the panic the New York banks contracted their loans noticeably, but this was largely made up by an inflow of funds from country banks. It would be dangerous to reason that, because the downswing seemed to accelerate during and after the panic, the panic intensified the downswing. Any significant influence of the panic on business must have operated through increasing pessimism.[68] However, the fact that the panic did not dangerously affect

[65] *Investors' Supplement to the Chronicle*, April, 1884, pp. 1–3.

[66] Cf. *Chronicle*, January 3, 1885, p. 9: "In no department was the decline in activity more conspicuous than in the flagging manufactures, the decreased mining, and the comparatively small amount of railroad building. Not only was there no inducement to engage in new work, but in manufactures and mining the low prices of products necessitated the cutting down of work and wages in every way possible, and many furnaces, mills and mines were closed. The production of pig iron was cut down . . . but still the demand fell off more rapidly than the production, and prices did not strengthen."

[67] Under an act of 1878 the Secretary of the Treasury had to buy and coin between two and four million dollars worth of silver every month. In practice he always bought the minimum, but, as silver sold at a discount, this meant coining upward of $24 million of silver a year. The depression in 1883 made money redundant. The banks therefore held onto their gold and made payments to the Treasury in silver. This led to fears that the gold standard could not be maintained, especially when the subtreasurer in New York City hinted that the Treasury might have to start settling its clearing-house balances in silver. Foreigners started selling American securities, and gold flowed out, depleting Treasury reserves still further. Beginning in the fall of 1884, the Treasury found various ways of complying with the act without endangering the currency, and there were no serious repercussions from the silver policy until the 1890's (William J. Lauck, *The Causes of the Panic of 1893* [Boston and New York: Houghton Mifflin & Co., 1907], pp. 19–23).

[68] Oliver M. W. Sprague, *History of Crises under the National Banking System* (61st Cong., 2d sess.; Senate Doc. No. 538 [Washington, D.C., 1910]), pp. 108–23. See also *Chronicle*, January 3, 1885, p. 8.

the financial position of business is further indication of the comparatively sound condition of business at the onset of the depression.

V. THE LOWER TURNING POINT (1885)

As 1884 wore on into 1885, few signs were visible to indicate the coming end of the downswing.[69] Interest rates were low, but unless interest rates had more effect on investment than most modern economists believe, this was significant more as showing that one of the conditions for an expansion was present (namely, a money supply capable of expansion) than as a factor for stopping contraction. Crops in 1884 were good, but not good enough to expand either the value of exports or the profits of railroads. The *Chronicle* from time to time pointed out railroad securities which appeared undervalued on the market, but it did not urge investments in new building, which alone would have had real influence on business.

Nevertheless, contraction gradually came to an end and gave way to weak revival in the course of 1885.[70] The National Bureau dates the trough in May, which agrees reasonably well with statistical data, contemporary comment, and the findings of other investigators. The most obvious and probably the most important factor limiting contraction was construction of buildings. Throughout the downswing this industry not only did not decline but actually continued to expand. Nor is this surprising. The mechanism of the building cycle, which reached its trough about 1878–80, apparently makes for upswings in building nearly a decade in length. Rents adjust slowly to supply-demand conditions, and the amount of building in any one year can have only a small effect on the total amount of buildings in existence.[71] Moreover, if, as there is reason to believe, much of the stimulus for building came from the opening of new territories by the railroads, one would expect the influence of the mileage added from 1880 to 1883 to be felt for some years more.

But railroad-building itself, which was to experience a great boom in 1886 and especially 1887, was at its lowest ebb at the time of the cyclical upturn. Thus the upturn occurred not because of the behavior of railroad construction but in spite of it. The upswing did not become pronounced until railroad-building revived, but the lower turning point itself cannot be explained by any change in long-run investment prospects. Nor can it be explained by external events. The contraction process simply came to an end by itself, limited by what is nowadays called "autonomous" investment,

[69] The *Chronicle*, however, thought differently: "The fact that the downward course [of security prices] has been steadily in progress for nearly four years . . . that 'liquidation' in almost every trade and business has been thorough and complete, that we have been through a financial crisis of large dimensions, that this came after a shrinkage of great magnitude, and must therefore have uncovered the weak spots in the situation, that the general mercantile community is unusually strong, and that the banks carry a surplus never before known in our history, would seem to argue that if we are not on the eve of a change for the better, we have at least seen the worst of the present era of depression" (*Investors' Supplement*, February, 1885, p. 1). Much of the *Chronicle*'s argument, however, seems to be that, because matters have been so bad, they can't get any worse. Whatever we may think of the rationality of such reasoning (and my experiences in the army belied it time and again), if the business community in general believed it, it would constitute a psychological factor that would help bring contraction to an end.

[70] London *Economist*, February 20, 1886, Supplement, p. 51.

[71] The historical evidence does not give a clear picture about the normal length of the building cycle, inasmuch as wars have so often exaggerated the troughs and lengthened the postwar upswing. But for building to continue to expand throughout the depression of the early eighties is what we should expect to find even if we suspect the building-cycle upswing would normally be less than a decade.

by impossibility of induced disinvestment exceeding depreciation, and (presumably) by the tendency for consumption to fall less than income.[72]

As the prospects for business in general improved, so did the prospects for railroad investment. The first half of 1885 was marred by railroad rate wars, prominent among which was the attempt of the New York Central to crush the competing West Shore road. This particular battle was settled in August, whereupon the trunk lines formed a strong pool to maintain—and soon to raise—rates. Harmony among railroads then spread throughout the country, considerably improving prospects. The stock market rose, making possible large speculative profits out of worthless stocks. Meanwhile, those few roads in default on bonds were successfully reorganized, and traffic continued to increase with the growth of the country. Thus the stage was set for revival of railroad investment in 1886. But it seems more than coincidence that railroad-building turned up *after* the cyclical upturn. The improvement in general business was one of the causes of railroad revival.[73]

The upswing continued to be sluggish during the first part of 1886.[74] But with good crop prospects and expanded investment in railroad and building construction, the revival became vigorous in the last half of the year.[75]

VI. CONCLUSIONS

Gordon has defined major and minor cycles as follows:

> Major upswings are periods of rising or high-level investment (including government spending) during which, even if cumulative downward spirals develop, long-term investment opportunities continue favorable and therefore the self-correcting forces inherent in recessions are sufficient to bring about a new recovery in fairly short order. In major downswings, on the other hand, long-term investment opportunities become seriously impaired . . . ; and hence the self-correcting forces inherent in recessions are either insufficient to generate any new cumulative expansion at all (until long-term investment opportunities improve) or, if one is generated, the ensuing upswing is too weak to generate as high a level of investment and output as prevailed before the major downswing began.[76]

The business cycle of 1879–85 (counting from trough to trough) does not fit neatly into either of Gordon's categories. One's first impulse is to call it a major cycle because of the cycle in long-term investment opportunities in railroads, the comparative severity of the depression, and precedent.[77] But, to judge by performance, investment opportunities in the important field of building construction not only remained favorable

[72] Although what we know about recent business cycles makes it almost certain that inventories play an important role, lack of data makes it difficult to assess their part in the upturn of 1885. One scrap of evidence, however, may be given for what it is worth: "The discouragement of 1884 in all the branches of industry was carried over into 1885. There was generally a large stock of manufactured goods to be worked off at low prices, and this to a considerable extent was accomplished, so that at the end of 1885 the surplus stocks were believed to be much less than at the beginning of the year" (*Chronicle*, January 9, 1886, pp. 37–38). This seems to indicate that the end of contraction enabled businessmen to dispose of excess inventories rather than that contraction came to an end because businessmen had worked them off.

[73] The factors entering into the revival of railroad investments are discussed by the *Chronicle*, January 9, 1886, pp. 37–39, and January 8, 1887, p. 38, and in the *Investors' Supplement to the Chronicle*, August, 1885, pp. 1–2; December, 1885, pp. 1–2; June, 1886, p. 1; and August, 1886, p. 2. See also London *Economist*, February 20, 1886, Supplement, pp. 6 and 28.

[74] *Banker's Magazine*, May, 1886, p. 802.

[75] *Chronicle*, January 8, 1887, p. 38.

[76] Robert S. Gordon, "Cyclical Experience in the Interwar Period: The Investment Boom of the Twenties" (mimeographed paper presented to the Universities–National Bureau Conference on Business Cycle Research, November, 1949), p. 3.

[77] For precedents see Alvin H. Hansen, *Fiscal Policy and Business Cycles* (New York: W. W. Norton & Co., 1941), p. 16; Schumpeter, *op. cit.*, p. 396; and Kitchin, *op. cit.*, p. 10.

throughout the cycle but actually improved. If a choice must be made, I still prefer to call 1879–85 a major rather than a minor cycle, but it is best to look at it as a hybrid.

The cycle conforms well to Schumpeter's theory. The burst of railroad investment, which provided the motive power of prosperity, began, as it should, after the upturn of business in general.[78] Schumpeter's schema calls for a relapse (or Kitchin cycle) during the prosperity phase; this can be identified with the interruption of expansion in 1880. The period from the middle of 1881 to the end of 1883 is as good an example as could be found of Schumpeterian recession. The railroad boom died out partly because available opportunities were pretty well used up and partly because of increasing disequilibriums growing out of innovation and the competing-down process (i.e., increasing competition among railroads made it more difficult to calculate costs and revenues). The behavior of outside clearings gives some (though to my mind not wholly convincing) evidence of the Kitchin prosperity we might expect in 1883. The year 1884 and much of 1885 Schumpeter rightly called Juglar depression—a movement away from equilibrium as a result of the cumulative mechanism. As one would expect from Schumpeter's theory, the momentum of depression died out of its own accord. The burst of railroad-building in 1886–87 can be considered as belonging to Kitchin prosperity as well as Juglar recovery.[79] It may be thought awkward to regard the spurt of railroad investments of the early eighties as belonging to *Juglar* prosperity and that of the middle eighties to *Kitchin* prosperity, but the difficulty can be overcome by considering the changing nature of railroad innovation. In the middle eighties railroad investment may be thought of as a routine part of railroad operations. The main lines had been completed in 1882 or before; what remained was to build feeder or complementary lines. A change of this sort in the character of innovation had been going on throughout the railroad Kondratieff, the early innovators paving the way for the later ones as Schumpeter's schema would lead us to expect; but we can appropriately mark a change in the eighties and interpret events in accordance with Schumpeter's schema rather than in opposition to it.

It is not surprising that the facts of this period seem to bear Schumpeter out, for his theory was deliberately designed to fit history, particularly the history of the railroad era. But the facts also fit another theory, that of Hicks.[80] This theory is based on the assumption that the coefficient of induced investment (or accelerator) is explosively high. The downswing is prevented from going on to zero employment by (1) the impossibility of induced disinvestment exceeding depreciation together with (2) the existence of autonomous investment. The tendency of autonomous investment to rise over time eventually (as excess capacity gets worked off) initiates an expansion which, in consequence of the explosive accelera-

[78] The word "prosperity" is here used in Schumpeter's sense. Schumpeter divided the cycle into four phases: prosperity, recession, depression, and revival. Prosperity and depression are movements away from equilibrium, recession and revival movements toward equilibrium. Although "revival" and "prosperity" together are not the same as "expansion" in the terminology of the National Bureau, it is clear that prosperity (of a Juglar) should begin somewhere in the period of expansion.

[79] The chart which Schumpeter gave on p. 213 (*op. cit.*) suggests that the Kitchin prosperity should come before the end of Juglar depression, but I cannot see that this is a necessary part of Schumpeter's three-cycle schema. Only at positions of equilibriums are the phases of the three kinds of cycles rigidly determined.

[80] John R. Hicks, *A Contribution to the Theory of the Trade Cycle* (Oxford: Clarendon Press, 1950).

tor, ordinarily proceeds on to full employment. This explanation of the lower turning point fits 1885 very well indeed. Autonomous investment is plainly visible in the form of buildings as well as some railroad mileage. A certain amount of evidence, direct and indirect, can be found for the proposition that excess capacity developed in the downswing, and we can reasonably infer that this was instrumental in bringing the downswing to an end. In this case the excess capacity (in the railroads at least) was worked off more through the growth of population and crop production than physical deterioration, but this is scarcely an important qualification to our judgment of Hicks's theory. As far as the upturn is concerned, Hicks's theory is more illuminating than Schumpeter's.

Hicks's theory supplies two explanations of the downturn.[51] In the first, the upswing is brought to an end because of a ceiling to output set by full employment and limits (if any) to expansion of the money supply. The downturn follows as a result of the operation of the acceleration principle. In the case of 1882, there is no reason to think either of these checks operated to any important degree. The labor supply was increasing rapidly, and no real stringency was felt in money markets. Moreover, the railroad boom seemed to die out from lack of momentum rather than external check.

Hicks's other explanation of the downturn (and the one on which he lays less stress) depends on the possibility that the accelerator may be explosive only in the sense that it would generate cycles of ever increasing amplitude if nothing interfered. The first cycle, on this assumption, need not reach full employment, and since every downswing is apt to be interfered with by the limit to induced disinvestment, every expansion may be considered as the start of a "first" cycle. Hence, the interaction of the multiplier and the accelerator may produce the downturn without the operation of the ceiling even though the accelerator is (slightly) explosive.

This explanation needs only a little adaptation to be applied to 1882. In that year no ceiling was reached in spite of full employment. This is a possibility which apparently was not precisely envisaged by Hicks but which fits very nicely into his theory. We can suppose that the downturn resulted because the accelerator was too small to produce exponential growth. The fact that freight ton-miles did not increase at all from the first quarter of 1882 through the second quarter of 1883 affords evidence that the acceleration principle caused the decline in railroad building.[52]

But it seems to me that Schumpeter's theory—involving a burst of innovation which dies out because opportunities are used up and because disequilibriums develop while the competing-down process brings on recession—is more illuminating and convincing than any attempt to regard the railroad boom and collapse as part of a process of interaction between multiplier and accelerator.[53] Inasmuch as Hicks's theory is more useful than Schumpeter's at the lower turning point, the cycle as a whole encourages the idea of synthesizing the two theories.

[51] Perhaps I should say that Hicks has three explanations of the downturn, but the third—a slump in autonomous investment—was better formulated by Schumpeter and is given little emphasis by Hicks. Hence, the extent to which the facts conform to it I regard as less to Hicks's credit than Schumpeter's.

[52] It is difficult to understand why freight ton-miles did not continue to rise in view of the rise in the indexes of manufacturing, crops, and transportation and communication. Moreover, gross earnings of railroads rose in 1882, a fact which is hard to reconcile with the behavior of freight ton-miles and the probable behavior of freight rates.

[53] Cf. W. W. Rostow, "Some Notes on Mr. Hicks and History," *American Economic Review*, June, 1951, esp. pp. 321–22.

BOOK REVIEWS

Defense without Inflation. By ALBERT G. HART. New York: Twentieth Century Fund, 1951. Pp. xiv + 186. $2.00.

The symptoms seem always to be the same—too few cars produced—but the disease is entirely different. Fifteen years ago it was the problem of secular stagnation—a deficiency in demand. Now, and indefinitely into the future, it is the problem of secular inflation—an excess of demand. The cure, which was once to create new demand, is today an unpalatable dose of destroying demand. Professor Hart, assisted by the Twentieth Century Fund's Committee on Economic Stabilization, outlines the general policy to be followed in these changed circumstances.

There is nothing new about the problem of stabilizing an economy threatened with inflation. We did it with fair success in World War II. But today's economic problem is far more difficult. For one thing, we must be ready to deal with inflationary pressures for years. Second, our policy must prepare the economy for full mobilization at any time. Stabilizing when faced with today's military requirements is thus only part of the difficulty; our stabilization policy, if it is to contribute to our defense, must also strengthen our ability to mobilize all our resources, whenever that may become necessary.

The author's treatment of these problems is, at a certain level, very satisfactory. The defense goal and the inflationary dangers implicit in it are clearly described. The probable time path of the defense effort on the unrealistic (to me) assumption of no Russian countermoves is indicated. Then all the tools of anti-inflationary policy are examined; and the chest is filled with an array of new taxes, allocations, price freezes, controls over stock-exchange credit, etc. While one might differ as to details, complaining perhaps that too little has been learned from our failures during World War II, one cannot deny that this policy, if adopted, would give us stability in the context of annual defense expenditures rising to perhaps seventy billion dollars and tapering off after a few years to, say, fifty billion dollars. But this is not the context in which the policy must be judged. In the more realistic one, a readiness economy which must at every instant be prepared for full mobilization, the recommendations seem likely to give us inflation without defense. Although those who prepared the study were conscious of the much stiffer requirements their program must meet (cf. pp. 37, 169), it seems to me that they failed to test it against these requirements.

For one thing, the economy would suffer a loss of strength and flexibility from a long-continued adherence to these policies. The adverse effect of high-enough tax rates upon labor recruitment and production efficiency should be remembered. The adverse effects of direct controls upon resource allocation and our ability to meet rapid changes in the patterns of requirements should be noted. We would get a readiness economy in terms of a munitions stockpile, but not an economy as ready as we should like, to mobilize for hot war.

Second, since the administrative apparatus proposed would not be suitable for full mobilization, a second unreadiness would be created. The intensification of the controls urged for, say, 1952 would be inadequate. No policy of taxes with direct controls, that is to say, no 1944 policy, would secure the goals of tomorrow's full mobilization. And even if from a technical standpoint it could work, it would be too centralized and hence too vulnerable. If quite different principles for control must be followed, we should learn how to use them during the period of readiness. Otherwise we encourage *ad hoc* improvisation.

The program outlined in this study, while adequate to the needs of 1951-52, is not able to achieve objectives we have all accepted but which are far more demanding. It promises only a weak defense against inflation and a weak national defense.

It is clear that there is no easy solution to the problems of a readiness economy. But a necessary step is to persuade the public that defense costs a lot; that there is no point in ordering some of it unless we are willing to pay for it; and that payment cannot be made in half-doses of 1944's medicine. This the book under review, —for all its clarity, its adequate setting-out of

the problem, and its technically able discussion of individual anti-inflationary measures—fails to do.

LORIE TARSHIS

Stanford University

Economics of Employment. By ABBA P. LERNER. New York: McGraw-Hill Book Co., 1951. Pp. xv+397. $3.50.

Professor Lerner's interest in the theory of employment is a long-standing one, and his contributions to the theory and its understanding are numerous. They have included one of the earliest "translations" of Keynes's *General Theory* and the novel statements of theory and associated policy proposals which Lerner titled "functional finance." Many economists have looked for the *Economics of Employment* to push further the frontiers of employment theory or further to clarify the existing theory.

The *Economics of Employment* is directed primarily toward providing those who have had little or no previous training in economics with an oversimplified theory of what determines the level of employment and the kind of economic policy which follows from this theory. It also includes excursions into explaining the reasons for the somewhat less than universal acceptance of the proposed policy, if not the body of theory upon which the policy is founded. The core of both the theory and the policy is that of "functional finance," with modifications which take into account some of the criticisms which have been leveled against this theory and with discussion of some problems not previously so elaborately treated by Lerner—particularly trade-union wage policy and stability of exchange rates as related to a stable price level and full employment.

I hope that I am not competent to view the book as one of the class of readers for whom Lerner has written. The comments which are offered here are thus the result of viewing the book in a setting for which it was not intended. Nevertheless, I believe that Lerner's intelligent, but untrained, readers will fall largely into two groups: (1) those who will accept the prescriptions without understanding them and (2) those who will feel that believers are the victims of "black magic."

One must admire Lerner's ability to strip away the trappings and reveal the basic structure of the theory. However, some relatively important pieces are missing or have been inadequately fitted into the basic schema. For example, the reader is initially informed that the volume of employment depends upon the rate of spending, implying that aggregate demand alone determines output and employment. This position is subsequently modified in an interesting discussion of "high and low full employment" (chap. xiii), the assumption apparently being that at less than low full employment output is perfectly elastic with respect to price but that at employment levels between low and high full employment the real wage or the degree of monopoly must decline as output is expanded. The determinants of the rate of spending are government expenditure, income, and the rate of interest. Subsequently, in the discussion of public debt, monetary assets and the price level are included as determinants of the quantities of goods and services which buyers are willing to take from the market, but the initial description is not complicated by this useful fiction. Similarly, in the initial theory of interest (chap. vii), the author stresses that shifts in the investment function or the savings function need not change the rate of interest. This follows from the assumption that the quantity of money demanded depends only upon the rate of interest, the quantity of money supplied being autonomously determined. However, this conclusion is also subsequently modified (chap. xvii) when income is introduced as a variable affecting the quantity of money demanded. These different systems do not appear to be offered only as descriptions of the reasons for the different conclusions which result from including different variables in the different relations. Conflicting though they are, each appears to be offered as a description of reality. I wonder whether the intelligent, untrained reader will be confused or enlightened by the subtle alterations in assumptions.

Although Lerner has taken account of some of the criticisms which have been directed toward some of his previous statements of theory and policy, I believe that he has ignored many of the more important ones and that his analysis is still open to the charge that his prescriptions are primarily exhortations to do good and that he has not supplied his readers with an adequate blueprint of when to do what. Such a charge is not adequately answered by the demolition of "straw men" representing some of the less valid reasons for opposing

functional finance or by the discussion of limitations of existing dynamic theories. Some forecast must be made as a basis for taking action. Although Lerner does not commit himself to a forecast equation, one which would fit his policy prescriptions is that, in the absence of a change in policy, tomorrow would be like today. While such a forecast equation may be the best that can be formulated, the poor forecasts which would result from it should lead to little confidence in our ability always to make things better (unless they are really bad) by the techniques of functional finance.

I am highly sympathetic with Lerner's desire to inform the uninformed. However, I believe that they should be informed of how little we know as well as of the progress we have made. To state that the techniques of functional finance would be useful if we could clearly recognize a bad situation is one thing. But to imply that most situations can be classified as warranting or not warranting action and that this classification will always lead to taking action when we should take it is another.

Although this book may not fulfil the function for which it was written, I believe that it will be highly useful as a text in more advanced courses in the theory of employment, where its content can be appraised in the light of alternative theories and empirical observations not presented in the book itself.

O. H. Brownlee

University of Minnesota

The Search for Peace Settlements. By Redvers Opie and Associates. Washington: Brookings Institution, 1951. Pp. xvii+366. $4.00.

The Brookings Institution has rendered a service to students of current politics by assembling in this single volume the salient points in the disappointing histories of the postwar attempts at peace settlements. Separate chapters are devoted to Germany, Italy, Austria, the Axis "satellites" of eastern Europe, Japan, and Korea. The whole is prefaced by a running account of relations between the Western Allies and the Soviet Union over the twelve-year period ending in 1945. The story is brought down to the beginning of 1951, leaving the reader a collection of nightmares-*cum*-unfinished business.

Mr. Opie and his co-authors have prepared, chapter by chapter, a careful, powerful, and usually dispassionate indictment of the Soviet Union. "Whichever way we turn," as the short summary chapter has it (pp. 333–34), "the political malevolence of the Soviet leaders stands out as the great destructive influence that dashed the hopes for achieving unity among the major powers and obstructed the processes of peace-making." Soviet duplicity and insincerity are suspected in the "Popular Front" against fascism in the middle thirties. Suspicions increase through the Nazi-Soviet Pact, through the wartime alliances and conferences of 1942–45, and through each of the postwar negotiations, successful or otherwise. The Western Powers are criticized only for failure to forecast the Soviet postwar attitude, failure to contain the Soviets farther east in Europe, and failure to maintain a greater degree of mobilization after 1945. (This criticism is mild and temperate, since hindsight plays so great a part therein.) For a suggested solution to the East-West conflict one looks in vain. Such suggestions are no part of Opie's task.

However effective as a scholarly *indictment* of Soviet policy, this book is not yet a scholarly *judgment*. The Soviet position on point after point is presented sketchily if at all and usually passed over as a tissue of fabrications. Virtually no Russian, eastern European, or Chinese sources have been consulted. Soviet charges against the West are treated as falsehoods unworthy of detailed examination. In short, the book is frankly uncompromising in its outlook. Even while accepting many of its conclusions, I should have liked to see a fuller marshalling of the opposing evidence.

Although Opie is an economist, he and his associates act here like historians in the narrower sense, remaining on the legalistic and ethical short-run surface of events. No reader relying on their account can appreciate the underlying Soviet and Chinese conviction that we propose eventually to use Germans and Japanese as cannonfodder in a grand invasion of their homelands. This conviction is basic in present-day Marxist-Leninist theology. It unifies Soviet policy from the Soviet viewpoint, just as "Soviet imperialism" or "the political malevolence of the Soviet leaders" does from Opie's. A volume which accepts one view and ignores the other is useful as an indictment, or as propaganda in wars of varying temperatures. It cannot be a final verdict or offer any positive contribution to a settlement. But in what

country, or by what historian, can there yet be written the sort of volume I had hoped to see? And, if it appears, will it be a volume or an encyclopedia?

M. BRONFENBRENNER

University of Wisconsin

Philosophical Foundations of English Socialism. By ADAM B. ULAM. Cambridge: Harvard University Press, 1951. Pp. 173. $3.75.

It would have been helpful if Mr. Ulam had undertaken at the outset to say what he means by the term "English socialism" in his title. If he means, as would seem logical, the theory and practice of the British Labor Party, the book certainly does not measure up to its title. This may be unfair, because Ulam may have had something else in mind, but his failure to discuss the problem at all makes it almost impossible to avoid being unfair.

Kingsley Martin, the editor of by far the most influential British socialist magazine now being published, the *New Statesman and Nation*, recently remarked that "the Chapel and the Chartists, Owen and Morris have provided the vision of British socialism." Ulam has next to nothing to say about any of these forces. "Chartism," "Owen," and "Morris" each have one reference attached to them in the Index, and there is no explicit discussion of the role of religion in shaping the character of British socialism. By contrast, approximately one-third of the book is devoted to three nineteenth-century idealist philosophers (Green, Bradley, and Bosanquet), and most of a long chapter to the contemporary idealist political thinker, A. D. Lindsay. No attempt is made to show how these various theorists have actually influenced the British socialist movement, either philosophically or practically.

By contrast, one chapter *is* devoted to the Fabian *Essays*, which is surely one of the keys to every aspect of British socialism. But it is a short chapter (only six pages) and brings out nothing that one would not expect to find in any competent textbook. For example, the profound influence of classical economics on the Fabians and, through them, on British socialism is completely missed by Ulam.

One chapter (sixteen pages) treats what are surely peripheral topics today, namely, pluralism and gild socialism. And here, as elsewhere, Ulam fails to make connections between the authors he discusses and the present-day British political scene. In this case, it is perhaps worth noting, Ulam passed up a good opportunity, for G. D. H. Cole, the chief early proponent of guild socialism, is still very much alive and active in the British labor movement. It would have been interesting and useful to discuss his development and his influence over the years.

The final chapter, entitled (irrelevantly, as far as I can see) "The Theory of Reform," deal with the growth and accomplishments of the Labor party in the period since World War I. The part which will interest economists most is the discussion of the relation between Keynesian ideas and the Labor party's economic program. Ulam very sensibly refrains from asserting the existence of well-defined causal connections: on the whole, his position is the valid one that both Keynesian ideas and the Labor party's program are reflections of such objective factors as Britain's changed international position and the Great Depression. There is another point of interest to economists on which Ulam takes what I believe to be a sound position, though it will irritate a large part of the profession: "The argument that social and economic planning is inherently wicked, destructive both of political freedom and of economic prosperity, is not likely . . . to carry much weight in this age. The logic of social events is sometimes different from that of pure economy, and even if the economic argument of Mr. Hayek . . . were sound, there is no reversing of the tendency which has dominated political and social life in the West for some time" (p. 140).

This book has interesting and pertinent things to say, but its title is misleading; and it suffers severely from diffuseness and lack of structure.

PAUL M. SWEEZY

Wilton, N.H.

Private Property. By RICHARD SCHLATTER. New Brunswick, N.J.: Rutgers University Press, 1951. Pp. 281. $2.50.

Schlatter's *Private Property* is, as the author states, an essay rather than an exhaustive work. But it is a carefully done, valuable essay which traces the essential continuity, from the time of Plato to the present, of one of Western civilization's most important philosophical concepts—the origin, nature, and justification of private property. Its subtitle, "The History of

an Idea," indicates the author's concept of the scope of his analysis.

The keynote of the discussion is struck in the first chapter: "Since Plato and Aristotle wrote, no one has been able to think about property without asking, as they asked, whether or not it is natural." Once mankind began to seek a dependable justification for the fact of private property, that is, an ultimate reason for the *right* to exclude others from the use of one's property, a profound problem was opened up which has engaged human thought through the subsequent centuries.

The bounties of nature were freely appropriated by primitive man to satisfy his immediate needs. But, by the time that Plato and Aristotle began to consider the nature of property, men had already acquired a wide range of private ownerships. Since a right of private property, by its very nature, and whether based upon custom, statute law, or royal edicts, gave to the property holder the right to exclude others from using what was *his*, the ancient thinkers faced the problem: By what right does this man exclude that man from the use of this property?

Schlatter traces from the time of Plato the efforts of a wide variety of thinkers to answer this question. It soon became apparent that the concept that the answer was in the laws of nature left many aspects of the right of private property inadequately explained. Efforts to base the right to property upon labor failed to cover situations where property was acquired without specific labor. The laws of a nation and the laws of nations were found to protect rather than philosophically explain private property. The idea that the right of private property is justified by social expediency gives a pragmatic rather than a philosophical explanation.

This is an interesting little book which vividly depicts the interplay of the economic realities of different centuries and the current intellectual interpretations of those realities. Schlatter reveals how stubbornly realities continue to develop regardless of whether or not they find philosophical justification; likewise, how closely thinking has followed the trend of the realities.

DON D. LESCOHIER

University of Wisconsin

Greatness and Decline of Planned Economy in the Hellenistic World. By LUIGI EINAUDI. Berne: A. Francke ag. Verlag, 1950. Pp. 48. Swiss fr. 4.80.

This reprint in pamphlet form of a review by Dr. Einaudi, president of the Republic of Italy, of Rostovtzeff's *Social and Economic History of the Hellenistic World*, published in 1941, appeared in *Kyklos, the International Review for Social Sciences*, in 1950. It can hardly be called a review of Rostovtzeff's great work but rather an exposition and commentary upon that section which deals with the planned economy of Egypt under the Ptolemies from 323 to 30 B.C. In fact, it might reasonably be objected that the term "Hellenistic" as used here is somewhat of a misnomer. The Hellenistic world comprised far more than Egypt. The Greeks had spread over Asia Minor and as far as the frontiers of India; but of the internal economy of the empire of the house of Seleucus our knowledge is very imperfect.

When the Macedonian conquerors imposed their rule upon Egypt, they found a system of centralized control of economic life under the Pharaohs, which they extended and made more efficient. Their Greek followers were given estates and their soldiers small holdings, in return for which they were required to market their produce through royal agents. The native Egyptians were regimented and, to a large extent, "collectivized," very much as the Russians today. While the central government was strong and the civil service efficient and tolerably honest, the system worked well and without too great friction or discontent among the peasantry. As the power of the Ptolemaic dynasty gradually declined through degenerate monarchs, who wasted their resources in insensate rivalries and disastrous wars with the Seleucid rulers of Asia, the economic system fell more and more into decrepitude. The civil service became corrupt and tyrannous, and the peasantry was driven to despair and revolt.

The lessons which may be learned today from this highly interesting experiment are very plain. So long as the central government is strong and its servants efficient and reasonably honest, so long can a centralized system of control over economic production and distribution work well. Let inefficiency and corruption sap the strength of the ruling class, and the system will break down.

So far the exposition of the downfall of planned economy in Egypt is plain and indisputable. But what may reasonably be objected to Rostovtzeff's treatment of the problem, and after him Einaudi's, is that they fail to realize, or rather to give sufficient emphasis to, the fact that the downfall of the Hellenistic kingdoms

came, not through any internal economic decay or inherent faults or weaknesses in their economic system, but rather from exhaustion through dynastic struggles. The Greeks, with the "political wrongheadedness," which always plagued them and eventually led to their downfall, fought themselves to ruin and bankruptcy. Rome, at first reluctantly, was forced to intervene in a world where men were "a little mad." In Egypt the Romans found a system of planned economy which, though badly run down, was still in existence and only needed strong control to restore to working order. This they provided, and the land proved to be the richest province in the empire. Egypt was only finally ruined when the Arabs misruled and mismanaged a land of hitherto inexhaustible riches.

H. MICHELL

McMaster University

Economic Resources and Policies of the South. By CALVIN B. HOOVER and B. U. RATCHFORD. New York: Macmillan Co., 1951. Pp. xi+464. $5.50.

This book is the most complete yet written on the economic problems of the South. It is appropriate that it appear at this time. Among competent students there has come to be a genuine consensus concerning the major aspects of the region's economic situation. A few issues remain controversial, but the area of agreement is far more significant, and this book is largely representative of informed opinion.

The cataloguing of factual data on resources of the South is exhaustive and comprehensive. Greater selectivity would have perhaps made the presentation more effective, since the data seem occasionally to obtrude upon and to obscure the underlying analysis. The authors' earlier and briefer report was superior in analytical conciseness.[1] The addition of a concluding and summarizing chapter is needed to integrate the separate areas of the study into a meaningful base for policy prescriptions. It is unfortunate in some respects that data for Oklahoma and Texas are included in most of the southern series. While cotton culture is a common factor, linking these states economically with the remaining eleven, other features clearly isolate the problems of these states.

The economic problem of the South is primarily that of southern agriculture. Historical and institutional factors, which are not sufficiently emphasized in this book, have created a situation in which the ratio of labor to land and capital resources is relatively very high. Normal adjusting forces, although operative, have been prevented from being fully effective for several reasons. The result has been a continuing deterioration in the terms of trade between the agricultural and the nonagricultural segments of the economy. This worsening in the terms of trade is correctly stressed. Recognizing that the protective tariff policy is no longer of major importance, the authors attribute this worsening largely to the quasi-monopolistic character of the nonagricultural sector as opposed to the more competitive structure of agriculture. This does explain much, especially in regard to the particular shifts in terms of trade during periods of economic recession. But over a longer period, equally important is the fact that secular increases in supply of all basic agricultural products have tended to exceed secular shifts upward in demand. Farmers, faced with these difficulties, have been able to improve their relative income position by direct governmental interferences with markets. The authors of this book, holding that free agricultural markets are perhaps not politically possible, support a system of countercyclical income subsidies in lieu of price supports.

The authors are eclectic concerning the highly controversial issue of the North-South wage differential, and the impression is conveyed that they are not happy about discussing it at all. In common with others, they tend to confuse the "justice" of the wage differential with its economic causes. The issue is essentially one of greater freedom versus greater interference with labor markets in both the South and the non-South. Can the goal for the southern region, higher incomes, be best promoted by encouraging greater freedom in the purchase of its most abundant resource? Or can this goal be better achieved by encouraging further interference, either by government through the establishment of minimum wages or by trade-unions through the forced removal of wage differentials? Greater freedom of markets in the sale of products is vigorously espoused, since this is held to improve the South's terms of trade with the rest of the nation, but no such conclusion is reached concerning labor markets. This inconsistency in the analysis of the South's problem will, for many, be the major weakness of the book.

[1] *Report of the Joint Committee on the Economic Report on "The Impact of Federal Policies on the Economy of the South,"* reviewed in this *Journal*, LVIII (April, 1950), 181–83.

Hoover and Ratchford emphasize that continued relative progress for the South depends primarily upon the maintenance of a prosperous expanding national economy. Policies designed to insure this development stimulate both industrial expansion into the South and the migration of workers out of the South. It may be observed that the conditions imposed by a mobilized economy, coupled with an apparent political inability to deal with domestic inflation, will probably cause this relative progress to continue.

J. M. BUCHANAN

Florida State University

Economic Survey, 1919–1939. By W. ARTHUR LEWIS. Philadelphia: Blakiston Co., 1950. Pp. 221. $3.00.

The book, or at least a good part of it, is designed to answer a fundamental question: "The sixty years before 1914 witnessed an astonishing expansion of the world economy in area, in production, in interdependence, and in complexity. Why did progress reduce, not indeed to a halt, but to a much slower pace after 1918? Was this change only the temporary consequence of the war . . . ? Could a return to prewar rates of progress have been expected, in the normal course of events, or has the world entered an era of relative economic stagnation?" (pp. 12–13).

The answer, Professor Lewis feels, lies essentially in the field of international trade. The relative stagnation of the interwar period was caused, he argues, by the diminishing growth of demand by manufacturing countries for primary commodities which in turn limited the growth of primary countries' demand for manufactured goods. This is more than merely saying, as was commonly claimed during the thirties, that the severity of the Great Depression was due to the coincidence of an industrial with an agricultural slump. Lewis claims a definite causal relationship. He attempts to support his thesis by adducing statistical material, and while, as he admits himself, the evidence is not conclusive, the author is quite successful in establishing a fair degree of plausibility for his thesis.[1]

Nevertheless, Lewis' tendency to overemphasize one factor at the expense of others evokes misgivings. After having mentioned briefly other possible factors working in the same direction, he states: "Nevertheless the significant point remains that if primary commodity markets had not been so insecure, the crisis of 1929 would not have become a great depression" (p. 196). His discussion contains much too little weighing of the relative importance of the individual factors to justify such a definite statement.

Much the same is true of Lewis' attempt to attribute the long-run decline in the British rate of industrial growth to Britain's having "ceased to be the workshop of the world" (p. 75). One would think that decline in the rate of industrial growth may be expected in an industrially mature country. Later in the book the author accepts this view explicitly in discussing a number of retarding factors which have nothing to do with the industrialization of other countries (pp. 179–83). Since, until 1914, the rate of growth of British exports (computed from peak to peak of the cycle, as Lewis might have done) was consistently higher than the rate of industrial growth, and since in addition exports of manufactured goods constituted only a fraction of total industrial output, it is clear that factors other than industrialization must have been at work.

Apart from the United Kingdom, special chapters are devoted to a discussion of interwar policies in a number of other major countries (Germany, France, United States, Japan,

[1] The discussion of the pertinent statistical data is perhaps in spots a little infelicitous. The author deduces an "important conclusion" from the fact that before World War I the ratio of volume of trade in primary goods to that of manufactured goods varied inversely with the terms of trade and that the same relation prevailed after the war: "There was much groaning in the inter-war years at the low level of the trade in manufactures, especially by those industrial countries whose export industries were so badly affected. But in fact the trade in manufactures was throughout the period at a reasonable level" (pp. 152–53). The author catches himself in the very next paragraph by saying that one might have deduced equally well from the statistics that trade in primary products was at a reasonable level. But he does not succeed in removing entirely the confusion he has caused in the reader's mind. For obviously no "important conclusion" with regard to the "reasonableness" of the level of trade follows from his data. On the other hand, no one can reproach the contemporaries for finding "unreasonable" a volume of trade in manufactures whose ratio to that of output of manufactured goods was 25 per cent below what it had been in 1913.

U.S.S.R.). The German chapter is perhaps based too much on C. W. Guillebaud's book (*The Economic Recovery of Germany*); this may account for the laudatory remarks on the Nazi drive in southeastern Europe, which is said to have redounded to the benefit not only of the countries concerned but possibly even of the world at large (p. 94). The author would have done well to extend the scope of his readings to include Howard Ellis' *Exchange Control in Central Europe*. The French chapter is entirely too thin; but the chapter on the U.S.S.R. presents a rather nice summary of economic development in that country, even though the author fails to explain correctly the paradoxical persistence of inflationary pressures in a strictly regimented economy (p. 129), and his conclusion that in 1934 "Russia was ready to give her people a steadily rising standard of living" (p. 135) seems to me to overlook essential connections between the maintenance of a high rate of investment and the mechanics of a dictatorial exercise of power.

On the whole, this is a very original effort. Throughout, Lewis' attempt has been to analyze and to interpret rather than merely to describe. The result is a most stimulating book which should prove to be of major usefulness in courses on recent economic history.

ALEXANDER GERSCHENKRON

Harvard University

And So It Goes On: Further Thoughts on Present Mismanagement. By ROY HARROD. London: Rupert Hart-Davis, 1951. Pp. x+191. 6*s*.

These essays represent a genus of informed journalism that is nearly extinct in this country. Originally written (apparently in considerable haste) for lay publications ranging from *Horizon* to the *Financial Times*, they assume both the willingness and ability of educated men to follow a reasoned discussion of economic problems from the printed page. As always, Mr. Harrod's reader is on his own; he must make his way through a maze of capital cuts, devaluation, disinflation, and unrequited exports, unaided by the convenient crutch of sarcasm, invective, handy slogan, or even simplifying illustration. A pessimistic reviewer may doubt that his technique was especially effective for getting the more elementary truths propagated by our profession across to the readers of *Horizon;* but anyone who grew up with a well-thumbed set of the *Encyclopaedia Britannica* (11th ed.) in the house will find it wonderfully refreshing.

Most of the ideas which Harrod shares with liberal economists, past and present, put in an appearance somewhere along the line—the social usefulness of profit, the curse of inconvertibility, the general crudity of socialist thinking about economic problems, etc. Chapter iii is likely to be of particular interest to American readers. Here Harrod reviews *Planning and the Price Mechanism* in a search for common ground with men of socialist persuasion, digressing to take issue with Professor Meade on the wisdom of seeking income equality through capital levies and death duties, and the effectiveness of the interest rate as a lever for controlling the price level. Once more the Labor Cabinet is castigated for inadvertently using nearly one-half of the American loan to reduce its war debt held by the sterling area and blocking devaluation for so many months, although from Harrod's account it would appear that a large share of the responsibility for these errors must rest with the senior (and probably Conservative) officials of the Bank of England.

The novel ideas in these essays, however, lie not in the author's policy prescriptions—British economists generally hammer away at the need for retrenchment and a reduction in the state control apparatus—but rather in this perceptive concern with the problems of public opinion. Harrod holds that the decline in the quality of political discussion in Britain in recent years (which he ascribes in part to the passing of the Liberal party) paved the way for recent fiscal blunders and the persistence of wartime controls. This book may even strike the reader as one man's effort to repair the damage. Harrod seems deliberately to employ an almost Victorian vocabulary (Britain's honor is besmirched when she abandons convertibility) in order to emphasize the need for acknowledged principles in morals and doctrine if economic policy is to be formed intelligently. On balance, *And So It Goes On* is an eminently sensible, if occasionally querulous, commentary on recent economic developments in the United Kingdom.

DONALD DEWEY

Duke University

Georges Sorel, Prophet without Honor: A Study in Anti-intellectualism. By RICHARD HUM-

PHREY. Cambridge, Mass.: Harvard University Press, 1951. Pp. 246. $4.00.

Georges Sorel is known in this country as the author of *Reflections on Violence*—a book which by any literal interpretation is a curious mixture of wit at the expense of professors and politicians, arresting observations on history, and ill-tempered gibberish about the virtues of proletarian violence. The author of this monograph makes a convincing case that Sorel should not be judged on one work alone but on his thought as it developed in innumerable books and articles over thirty years. Actually his connection with the Syndicalist movement, which inspired the *Reflections*, lasted less than five years. (By 1911 he was investigating the possibility of moral rearmament through the Action Française.) Professor Humphrey is not much concerned with Sorel's limited political activity but rather with his proper place as a serious historian and philosopher. He is at pains to show that Sorel—his subject's fiery rhetoric notwithstanding—was not really a vicious authoritarian. In one sense (and one sense only) Humphrey is correct. A careful reading of the relevant passages in Sorel indicates that violence by definition is force employed without personal rancor or unnecessary bloodletting.

This monograph is at its best when the author is synthesizing and expounding Sorel's criticism of Marx, William James, and Bergson or outlining his views on the role of the lawyers in the French Revolution, Socrates' subversion of Athenian greatness, etc. As a work of exposition it is first rate—Humphrey does a better job of presenting the essential Sorel than ever did the master himself. In fact, Sorel the tireless critic of life and letters and friend to Croce and Halévy emerges as a not unattractive character.

As a work of criticism, however, the monograph carries little weight. Sorel's claim to rank as an important philosopher is made to rest upon his insistence that man is not always (or even usually) a rational animal; while in the concluding chapter (written under the subscript, "$E = mc^2$—Albert Einstein") Sorel's claim to rank as a sage is based on his awareness that technological change creates problems which are not likely to have ideal solutions within any existing social framework. The man that Humphrey depicts is the very archetype of the self-taught bookish and disputatious enthusiasts who abounded in the Socialist movements of an earlier day.

As previous critics have often emphasized, Sorel is an important figure in European thought because in his writings he wonderfully illuminates the common origins and fundamental affinity of such superficially incompatible movements as syndicalism, Catholic reaction, Italian fascism, and Russian-type communism and because in his personality he reveals in pathologically exaggerated form the universal hostility of the romantic idealist to parliamentary politicians who are perforce specialists in negotiation and compromise.

Sorel abominated the preoccupation of most mortals with the everyday business of living and year after year extolled the noble "cause" which had the power to disrupt monotonous routine. Almost any cause, providing it furnished its adherents with a refreshing sense of mission, could command his approval. Protestantism and the Counter Reformation, Christianity and Greek paganism, Peter the Great and Lenin—all were good to the extent that they had stirred (or compelled) the human race to self-sacrificing action.

One writer has facetiously suggested that Sorel's abiding hatred of representative government and its creatures was a reaction against the drabness of French suburban life and that he should have worked off his frustration by reading or writing detective stories. Humphrey, however, makes no effort to diagnose his subject's inability to give allegiance to a decent humdrum social order. He does not even note it.

DONALD DEWEY

Duke University

Capitalism in Amsterdam in the Seventeenth Century. By VIOLET BARBOUR. Baltimore: Johns Hopkins Press, 1950. Pp. 171. $2.50.

During the seventeenth century, as their city became the commercial capital of Europe, the merchants of Amsterdam were hated, envied, and imitated. English and French competitors were astonished by the rapid growth of Dutch wealth, and many attributed this growth to unfair practices, by which they meant uncustomary practices. Miss Barbour examines Amsterdam's business, finds that it did not flourish because of methods that were fundamentally new, and concludes that the city's "golden age was rather the climax of a period of transition than the beginning of a new economic era."

But Miss Barbour does not offer an alternate

explanation for the city's success. If it did not depend on the introduction of new business methods, then the merchants of Amsterdam during the seventeenth century must have made especially good use of the old methods. The outstanding economic institutions of Amsterdam were bank, fleet, insurance, bourse, and joint-stock company. All these, as Miss Barbour indicates, had some roots in the past, but the interesting question is why they worked so much better in Amsterdam and at that particular time. Other cities had banks, but Amsterdam was the first to enjoy easy transfer of bank credits; others had bourses and joint-stock companies, but Amsterdam was the first to engage in speculative trade in shares; other men worked and saved, but the industriousness and parsimony of the citizens of Amsterdam were bywords. Presumably the difference was in the spirit of the men rather than the structure of their institutions; but although Miss Barbour refers to the energy and imagination of Amsterdam merchants, she neither accounts for them nor carefully examines their effects.

However, Miss Barbour's monograph does not really aim at explanation, and her thesis about the grounds for Amsterdam's success is beside her main work. She has devoted herself to describing the various enterprises in which Amsterdam capitalists invested, and in the course of this description she surveys more generally the city's economic life. She has used a wide range of documents, many of them not readily available, and records her findings in a style much better than ordinary. As a specialized inquiry, her work will no doubt be found very useful by students of the period.

Yet even as a descriptive work, her study suffers a serious defect. Although her subject is "capitalism," she neither defines it nor clearly identifies its manifestations in Amsterdam. There is little agreement among scholars on what capitalism is; like "mercantilism," "capitalism" is more often mentioned than reflected upon. Most historians probably agree in feeling that the best example of capitalism was the United States during the nineteenth century. Many of them believe that the prototype of capitalism was seventeenth-century Amsterdam, and that belief is among the main reasons for the interest in the economy of the Dutch Republic. Current discussion of capitalism might benefit from a cogent description of early capitalism and even more from a comprehensive explanation of its rise. If Miss Barbour's study had accomplished either of these tasks, it would be still more valuable than it is.

WILLIAM L. LETWIN

University of Chicago

Comercio entre Venezuela y México en los siglos XVII y XVIII. By EDUARDO ARCILA FARÍAS. [México]: El Colegio de México, [1950].

The volume before us is worthy of special notice on two counts. It is a meticulously documented monograph on economic history by a Spanish-American scholar, and it illuminates one of the neglected aspects of commercial activity in the former vast American empire of Spain.

Latin-American scholarship in the past has devoted little attention to economic history. In fact, the whole field of economics has until recently been largely neglected by our southern neighbors. Eduardo Arcila Farías, a young Venezuelan, established his right to be heard by the publication in 1946 of an economic history of colonial Venezuela that revealed a degree of careful archival research rare in the historical bibliography of South America.

The new volume is to some extent a by-product of the former. Its principal thesis is that for most of the Spanish-American provinces intercolonial trade was more important than that with the mother-country. Indeed, very few of the provinces, under the prevailing mercantilist system, maintained direct or regular communications with Spain but were rather bound to it indirectly through the viceroyalties of New Spain and Peru. The amount of maritime traffic with the metropolis was therefore not an index of the economic and political dependence of the American provinces. Mexico and Peru were the two centers whose influence extended throughout the entire continent and held together all parts of the empire as a single nation (pp. 18–19). From the standpoint of direct relations and economic dependence, one may almost speak of a *Mexican* colonial empire in America. A great number of the provinces had in Mexico their principal market, and to it they looked for financial aid or military succor in times of distress.

This situation the author regards as in part a result of deliberate policy by the Spanish crown, which acted on the "principle of equilibrium," manipulating the economy by restric-

tions that gave to each province a certain margin of prosperity and guaranteed its progress even at the expense of provinces more fortunately endowed. When the regime of "free trade" was introduced under Charles III, these intercolonial bonds largely disappeared, the sense of imperial unity was weakened, and the provinces became small economic units that heralded the empire's dissolution.

In illustration of the above, Arcila Farías proceeds to develop at length the story of the commercial relations between colonial Venezuela and Mexico, especially the trade in cacao, the former's most valued product. From the last quarter of the seventeenth century cacao was the chief source of Venezuela's prosperity and the economic basis for its wealthy creole aristocracy. The book is rich in detail, analyzing not only the importance and the volume of trade between the two areas but the evolution of prices, freight rates and taxes, the eccentricities of the customs administration at Vera Cruz, and the long struggle of Guayaquil to break the Caracas monopoly of the Mexican cacao market that ended in victory in the 1770's with the establishment of imperial free trade. Contraband trade by the Dutch, an important factor in the Venezuelan economy in the seventeenth and eighteenth centuries, must have accounted for large exports of cacao, but it is barely referred to by the author.

Arcila Farías' book is an important contribution to the history of European colonization before the nineteenth century. But it seems to me that in establishing his underlying thesis he somewhat overshoots the mark. It is questionable whether the Spanish regulation of colonial commerce really contributed to the sentiment of imperial unity; whether the system was really inspired by the desire to keep the prosperity of all the provinces more or less in balance; and whether the intercolonial trade, such as it was, really served to maintain the cohesion of the provinces within the empire. No evidence appears to show that the disappearance of the cacao trade of Caracas with Mexico and its replacement by that with Spain was analogous with developments throughout the rest of Spanish America. Caracas' loss in the Vera Cruz traffic was Guayaquil's gain, and "free trade" resulted in freer intercolonial trade as well as greater traffic with the Spanish peninsula. And while it is true that the secessionist movement from Spain followed shortly after the commercial innovations under Charles III, the implication that there was a direct causal connection (p. 20) is difficult to follow. In so far as secession had an economic motive, it was a revolt against the remnants of a system that the Spanish crown was in the process of abandoning.

C. H. HARING

Cambridge, Massachusetts

Banking Reform in South Korea. By ARTHUR I. BLOOMFIELD and JOHN P. JENSEN. New York: Federal Reserve Bank of New York, 1951. Pp. 107.

This booklet is the outcome of a mission to South Korea undertaken by the authors during the months between the autumn of 1949 and the spring of 1950—that is, in the period immediately preceding the northern aggression against the South. The purpose of the mission was to investigate the banking system with a view to proposing changes that would make it an effective instrument of national economic policy toward the immediate objective of stabilization and the longer-range aim of self-sustained development. Messrs. Bloomfield and Jensen were particularly well equipped with the theoretical knowledge and operating experience required to deal with these problems, and the booklet affords evidence of their awareness of the great complexities involved and the limitations of disposable means.

Apart from the two introductory chapters dealing with the political setting and economic developments of Korea from the end of the second World War, the other three chapters—on monetary developments and the reform of the central bank and of other financial institutions—reproduce with some editorial changes the text of reports submitted by the mission to the Korean minister of finance. The appendixes give the text of the proposed banking statutes, which were passed, with some amendments, by the National Assembly of the Republic of Korea in April, 1950. The reorganized Bank of Korea, in fact, commenced operations in June; the General Banking Act, however, had not been implemented at the time of the northern attack, and the law has not been put into effect to date. The value of the booklet is by no means limited to these documentary and historical aspects.

The dominant theme is the spiraling infla-

tion, primarily the result of heavy government deficit spending and large-scale borrowing by government agencies outside the budget. Of particular interest is the examination of the sudden spurts in the money supply in the last quarters of 1946, 1947, 1948, and 1949—due to the rediscounting by the Bank of Korea of the rice purchase paper issued by the government—and the relative stability of bank loans and money in circulation, at progressively higher plateaus, in the first nine months of each succeeding year.

The urgent need to devise measures to break or retard this inflationary process strongly influenced Bloomfield and Jensen in their recommendations on banking reforms. For example, the proposed statute for the reorganized Bank of Korea contains provisions that might appear very restrictive on advances to the government and on long-term financing of governmental or private requirements. Similarly, the proposed statute for other banks and financial institutions defines and limits with special strictness the scope of long-term financing by private institutions. It may be doubted whether, under normal conditions, these severe provisions would be appropriate to a country still underdeveloped, whose hope for economic and social stability lies in a higher productivity of agriculture and a steady growth of industry and trade. The authors explain, however, that such severe provisions would hardly have been necessary but for the need of a sharp break with the then existing situation, in which the combined magnitude of the government's financing of the long-term development program and of the expansion of private credit by commercial banks had contributed so materially to the existing inflation, and they argue persuasively that a check to these inflationary forces will be an indispensable prerequisite to any normal economic development.

These remarks suggest that the authors perhaps intended to allow for some liberalization of the proposed statements in the future, so as to enable all financial institutions (including the central bank) to play a more important role in financing the economic development of Korea, within a framework of general financial and social stability.

FRANK M. TAMAGNA

Washington, D.C.

Russia's Soviet Economy. By HARRY SCHWARTZ. New York: Prentice-Hall, Inc., 1950. Pp. xxvi+592. $6.65.

This is a comprehensive and up-to-date book on the Soviet economy. Its basic organization is cross-sectional, with chapters on industry, agriculture, transportation and communication, finance, labor, trade-housing-services, and foreign economic relations. In this respect it differs from, and supplements, the more historically oriented volumes on the Soviet economy by Dobb and Baykov. Professor Schwartz makes available, for the first time in English, a well-organized institutional and statistical picture of each sector of the Soviet economy based on a huge mass of material from both English and Russian sources. The book also contains background chapters on Soviet resources, history, and ideology and chapters on economic development and economic planning. The comprehensiveness of this work in its description of the Soviet economy, which is its principal merit, is perhaps responsible for the fact that the author insufficiently distinguishes between the more and less important features of the Soviet economy. The book, though smoothly written, somewhat resembles a piece of music in which every note is played at the same tempo and intensity.

A chronic defect of descriptive writings on the Soviet economy is the tendency to show how the economy *should operate* (per Soviet theory) rather than how it *actually operates*. This is unavoidable at present because the scattered information on this subject which is available has not been collected and analyzed. Some of the most important lessons of the Soviet planning experience await the results of such analysis. *Russia's Soviet Economy* suffers from this defect. It is to Schwartz's credit, however, that he makes some attempts to pierce the legalistic façade which screens the actual operations of the Soviet planned economy.

In some chapters, however, he loses himself so completely in legal and institutional details that the basic causal relationships are obscured. A case in point is the chapter on the Soviet financial system: nowhere in this chapter does the author come to grips with the fundamental Soviet, financial problem—prevention of inflation. Early in the chapter he describes the results of the inflation: large increases in the volume of money and credit in the prewar period and a tenfold increase in food prices from

1928 to 1940 (p. 403). Subsequently, he describes a very smoothly functioning financial system which, if one had not read the earlier section, would create confidence that the Soviets had indeed constructed the mechanism to insure financial stability. One looks for a clue as to how such an apparently beautiful financial mechanism could give birth to such an unseemly inflation. With the exception of some pertinent comments on wartime inflation, no clues are to be found.

A *critical* review of Soviet financial policy is needed here. What is the relationship between Soviet fiscal and credit policies? Is Soviet short-term credit policy likely to be inflationary and under what conditions? How successful has the State Bank been in its control function of keeping expenditures on wages within the limits of the plan? How is this related to the upward pressure of wages discussed in another chapter (p. 460)? These and other problems should have been called to the reader's attention even if answers were not available.

With a few exceptions, more sophistication is shown in the presentation and use of statistics than is to be found in any other general book on the Soviet economy. The most important exception is Table 59 (p. 461): average annual earnings are deflated by an index based on a small sample of state food-store prices to arrive at an index of earnings of workers in terms of 1928 "food rubles." The index stands at 703 in 1928, rises to a peak of 710 in 1932, declines in the late 1930's to about 350, and then to 250 in 1948. Schwartz carefully qualifies these results. However, since they are in direct conflict with qualitative information at our disposal, it would have been the better part of valor to have left this table out of the book entirely. Because of the important implications of the table, a few comments are in order.

The index shows workers' "real" wages to be twice as large in 1932, one of the worst famine years in Soviet history, as in 1937, the best crop year in the Soviet period. This fantastic result, which belies the very purpose of the index, is due to the inability of an index based on state-controlled prices to reflect repressed inflation and the spread between controlled prices in the state stores and uncontrolled prices in the open markets. Since the degree of repressed inflation in the U.S.S.R. was not uniform in the period covered by the index, the usefulness of state-controlled food prices as a deflator is seriously vitiated.

Furthermore, it is inevitable that "real" wages in the very limited sense of Table 59 will be taken to represent something broader, e.g., standard of living. The author, himself, falls into this trap (p. 462). An important reason why this is not the case is that the proportion of wage-earners in the urban population has increased substantially, e.g., by about 30 per cent from 1928 to 1939. If Schwartz's index could have been adjusted for this, for repressed inflation, and for other qualifications mentioned in the text (e.g., increase in free social services), the results would undoubtedly have been much different.

In spite of its limitations, this book represents an important contribution to the study of the Soviet economy. Schwartz has performed a considerable feat in unifying the vast conglomeration of existing materials on the Soviet economy. The interested layman will find *Russia's Soviet Economy* easy to read and informative; as a classroom text, it is the most useful yet published; and the specialist will find it invaluable as a single source containing most of the important institutional materials in Soviet economics along with many useful references to English and Soviet sources.

FRANKLYN D. HOLZMAN

Harvard University

Der Aussenhandel zwischen marktwirtschaftlich organisierten und zentralgeleiteten Volkswirtschaften ["Foreign Trade between Market Economies and Centrally Controlled Economies"]. By WILLI GRAF. Zurich and St. Gallen: Polygraphischer Verlag, 1951. Pp. xvi+190. Swiss Fr. 12.00.

This doctoral dissertation, published by the famous Swiss School of Commerce in St. Gallen, treats a subject of great theoretical and practical interest. After sketching the basic differences between market economies and centrally controlled economies, the author surveys the foreign-trade problems connected with central controls, discusses the relevant provisions of the Havana Charter, and adds some remarks on economic policy with particular reference to commercial relations between the Soviet area and Switzerland.

The author demonstrates his command of pure and applied economic theory and his familiarity with the most important American as well as European writings on the subject; the only notable omission is A. O. Hirschman's work on *National Power and the Structure of Foreign Trade*. The dissertation contains little that is wrong but (like so many of its kind) equally little that is strikingly original, and the author sometimes seems to miss the most interesting point of the subject under discussion.

A few examples: It is true that the Cominform countries tried to use their foreign-trade policies for strangling the Yugoslav economy after Tito's fall from grace (p. 91); but the author does not point out that the change in Soviet trade policies lagged by several months behind the change in Soviet politics—although this lag might permit a rather exact estimate of the time required in a centrally controlled economy to adapt foreign-trade plans to new circumstances. It is also true that the differences in cost accounting between Communist and non-Communist countries may create substantial difficulties in foreign trade (pp. 129 ff.); but the author dismisses the Communist position on cost accounting as a mere "falsification" of the non-Communist concept instead of explaining it as a meaningful part of an operating economic system. Similarly, it is true that the failure of the Soviet Union to sign the Havana Charter seriously impairs the prospects of international regulation of trade between Communist and non-Communist countries (p. 147); but the author does not mention the fact that one important Soviet satellite, Czechoslovakia, still is counted among the "Contracting Parties" of the General Agreement on Tariffs and Trade, which incorporates much of the Charter's economic philosophy. Finally, the author fails to discuss similarities and differences between the foreign-trade problems of fully controlled and of semicontrolled countries (such as the United Kingdom) or to analyze the effects of the "cold war" on the foreign-trade policies of countries which profess to adhere completely to the principles of a market economy.

Despite these sins of omission, the author presents what is probably the most comprehensive treatment of the subject, and his work should be carefully studied by everyone who has to deal with the impact of controlism on international economic relations.

J. HERBERT FURTH

Washington, D.C.

The Negro and the Communist Party. By WILSON RECORD. Chapel Hill: University of North Carolina Press, 1951. Pp. x+340. $3.50.

For more than thirty years, since the foundation of their movement in this country, the Communists have worked energetically among American Negroes, seeking to capitalize on their frustrations and to channel their discontent along Communist-approved lines. The story of these activities, and of the various Negro organizations the Communists sought to build or control, is told in detail in Wilson Record's well-written and fully documented volume.

This was not an easy book to write As one highly critical of Communist objectives and tactics, Record could not hope for assistance from Communists or followers of the party line. He has made up for this, as best he could, by a careful study of the literature. Each new turn in the party line is analyzed in the only terms that make sense—the shifting needs of the U.S.S.R. as they are understood by the leaders of the Communist party of this country.

Record distinguishes six periods in the history of Communist organizational and propaganda activities among American Negroes. Each period is clearly marked—sometimes by a different theoretical appraisal of American society and the position of the Negro, often by the formation of new organizations to further the new line, always by sharp changes in tactics. Sometimes the Negroes are viewed as an oppressed nation, with self-determination of the Black Belt as the goal; at other times the Communist objectve for Negroes is complete integration in American society. In some periods Negro protest and betterment organizations are denounced as supporters of imperialist reaction; in others their co-operation is eagerly sought; in still others they are attacked for protesting the Negro's wrongs too vigorously. Just as the Communist party makes these turns, often from one extreme to the other, so the organizations they control make parallel twists; or, if their usefulness is at an

end, they are dissolved and new front organizations formed to promote the new line. Yet there is a logic to the party's position: that whatever serves the interests of the "workers' fatherland" promotes the ultimate welfare of American Negroes, workers everywhere, and the human race as a whole.

Although in every period the analysis was made in terms of American conditions, at no time did a domestic event precipitate a new turn in the line. The changes between periods invariably were determined by Soviet needs, as is shown by a list of the dividing points—the Sixth World Congress of the Communist International in 1928, the rise of Hitler and his threat to the U.S.S.R., the Stalin-Hitler Pact, the Nazi invasion of Russia, and the Duclos letter in April, 1945, which laid down the tactics appropriate to the forthcoming cold war before the shooting war was fairly over.

For all their efforts the Communists have little to show in the way of Negro membership or support. Most Negroes have always sought the removal of their disabilities and full integration into American society. Only when the Communists shout these slogans more loudly than anyone else do they appear to be leading the Negro protest movement. Informed Negroes, who have seen the party line shift and its spokesmen support one day what they were denouncing the day before, have become understandably skeptical; and leading Negro organizations such as the NAACP have been the object of too many Communist attacks from without, along with efforts to penetrate and conquer from within, to retain any confidence in the Communist movement. Yet the Communists have had an effect in dramatizing the Negro's plight, in helping to break down patterns of discrimination, and in arousing Negro protest organizations to more militant activity.

In collecting and analyzing the material dealing with Communist efforts among Negroes, Record has done an able job of scholarship. That Communist policies and tactics in this country are dictated by the needs of the Soviet Union is not a new thesis; but to document this thesis so fully in an important area is a significant contribution.

JOEL SEIDMAN

University of Chicago

Industrial Relations in Sweden: Some Comparisons with American Experience. By CHARLES A. MYERS. Cambridge: Technology Press, 1951. Pp. viii+112. Boards, $2.00; paperbound, $1.65.

On the invitation of the American Embassy in Stockholm and of the Department of State, Professor Myers went to Sweden in the fall of 1950 as the first "specialist in industrial relations" under the Exchange of Persons Program established by the Smith-Mundt Act. This is the report of his observations (Myers calls them "impressions only") following two months of plant visits and discussions with many management and union officials.

In both Sweden and America, Myers finds, top management has become increasingly concerned about the importance of industrial relations in both its staff and its line aspects. He reports that in each country both management and labor prefer to handle their own problems without legal regulation of collective bargaining and new contract terms by government, despite the fact that the Taft-Hartley Act takes the American government into the collective-bargaining picture much further than does anything in Swedish labor law. The more striking differences in industrial relations in the two countries are summarized by Myers in this way: "Union-management relationships are more mature and developed in Sweden than in America, while management attention to plant-level industrial relations problems (personnel administration) is more recent in Sweden than in America."

This is a valuable report. It demonstrates how useful international comparisons can be in dealing with controversial questions in the social sciences. For example, most American employers adamantly oppose industry-wide collective bargaining. By contrast, Myers found that in Sweden, where industry-wide bargaining has been general for many years, the typical attitude of virtually all employers was the one expressed by a high official of the Swedish Employers' Confederation: "I just cannot understand the attitude of American employers toward industry-wide or regional bargaining. It may have taken us twenty-five years here in Sweden to get stability in union-management relations, but it was worth the effort." Likewise, on many other matters, such as the counter-inflationary role of collective bargaining in Sweden during the postwar period, the concern

of Swedish employers with their workers' housing, and management's friendly attitude toward the Swedish foremen's union, Myers has brought back important examples for Americans to consider.

A great virtue of Myers' report is his appreciation that it is not simply Americans who are habit-ridden and Swedes who are sensible, as American observers of Swedish accomplishments sometimes imply. On such matters as recruitment, selection and placement of workers, promotion and employment rating, "executive development," safety and medical services in industry, and measures to promote two-way communication between workers and management within the plant, Myers makes clear that Sweden can well look to the American experience.

Myers' report will be available to Swedish industry and labor, thanks to the Swedish equivalent of our Committee for Economic Development, the Studieförbundet Näringsliv och Samhälle, which has had the report translated into Swedish and is publishing it in Stockholm.

LEONARD SILK

Washington, D.C.

United States Administration of Its International Economic Affairs. By WALLACE PARKS. Baltimore: Johns Hopkins Press, 1951. Pp. xxv+315. $5.00.

Many believe that the administration by the United States of its international economic affairs is, to say the least, inadequate for the tremendous obligations the nation has assumed. In recent months many persons have urged the necessity of doing something about it, with the favorite suggestion for achieving unity and consistency being the creation of one new overall agency in which responsibility will be centered. To me, the outstanding virtue of Dr. Parks's timely book is that he delineates in considerable detail the extreme complexities of the problems and the present administrative structure and makes it clear that there are no simple solutions. He concludes that what is required is "a number of minor and interrelated changes over a wide front rather than sweeping constitutional or governmental reform." He sets forth and develops many "principles" or "themes" of administration, relates them to existing concrete situations, but believes that his principles cannot be rigidly applied and must be conditioned to the methods presently in use and frequently must be subordinated to domestic political considerations.

The author is concerned with three broad areas: (*a*) a clarification and reshuffling of the responsibilities of agencies other than the State Department; (*b*) an improvement in the conception and methods of over-all direction and management by the Executive branch; and (*c*) an improvement in relations between Congress and the Executive branch. With respect to the first, Parks would make many reallocations of responsibilities on the basis (with many exceptions) of such "functional fields" as money, transportation, etc.; and his recommendations, which seem reasonable, add up to a greater concentration of responsibility in the departments of Commerce, Treasury, and Agriculture. To prevent excessive power concentrations in the office of the President, Parks would strengthen the State Department as the "across-the-board" agency to implement the constitutional responsibilities of the President over the entire range of international affairs. He would strengthen and promote interagency discipline and collaboration by relying heavily on interdepartmental committees and tentatively suggests the creation of a new International Economic Council, to be chairmanned by the State Department.

It is to be regretted that Parks did not see fit to treat in more detail the problem of improving the relations between Congress and the Executive branch. His main recommendations are restricted to some realignment in the jurisdiction of the various congressional committees and to an extension of the device of intercommittee referrals. But this hardly seems adequate. He considers the general problem of reorganizing Congress for the nation's present role in international affairs outside the scope of his book, but one suspects that this may be among the most important factors in improving the administration of our foreign economic affairs. The study is limited to Washington and does not consider the organization of overseas missions. This major omission is justified on the grounds that these problems are being stressed in a study currently under way by the Brookings Institution.

An assessment of the contributions of this book to the theory of organization or administration must be left to others. To economists in universities who are interested in international

economic affairs, it is a source of much useful factual information, as of early 1951. (A more complete index would have been helpful.) To economists who are government employees, it should be of great help in comprehending the almost unbelievably complex organization to which they belong. To all of us as citizens, it makes an important contribution to an understanding of the importance, the difficulties, and possible improvements in the administration of the nation's international economic relations. The book is not easy reading, however; and the general public—to which it is also addressed—may find it too pedantic.

GARDNER PATTERSON

Princeton University

Relaciones económicas entre México y Estados Unidos, 1870–1910. By JORGE ESPINOSA DE LOS REYES. Mexico, D.F.: Nacional Financiera, S.A., 1951. Pp. 189.

This study of the economic relations of Mexico and the United States covers the period of the regime of Porfirio Díaz. It is based on American and Mexican materials, with many statistical tables to show the trend of developments. Difficulties in making the study arose particularly from discrepancies in the figures given by the various authorities consulted. Also the author found it impossible to make a complete segregation of the investments of the various foreign countries. Hence this discussion is general in the belief that the effects of American capital on Mexican economy followed the general trend. The author sets forth his basic thesis and conclusion, as follows:

> The foreign investments and the political stability, which the administration of President Díaz maintained, were without doubt decisive elements in the economic progress which the country achieved in the last years of the 19th century and the first decade of this century. But if indeed it is certain that those investments accelerated the economic progress of the nation and the political stability permitted the development of the economic activities, these two factors gave rise to continuous iniquities and unjust privileges, which years later left as a balance a profound animadversion to the regime and to foreign capitalists.

The survey begins with a consideration of the development of communications within the republic. Native capital was lacking or unavailable; European sources were dried up; so that American capital was all that was available. In spite of aversion on the part of many Mexicans, by means of American capital the country secured a system of railways, affording communication with the various ports, the several parts of the republic, and the United States. The second section discusses the commercial relations between the two countries. The effects of the protective policies—for revenue in Mexico and for support of industries in the United States—are outlined. Information is afforded regarding the items entering into the commercial exchanges, and tables are given to show the changes which took place in exports and imports. The progress of industrialization in Mexico is described and its effect on imports set forth. The complete text of an unratified commercial treaty of 1883 between Mexico and the United States is given, which serves to illustrate something of the thinking on the subject. There is also an account regarding the free zone along the Mexican-American border and the problems which arose in connection with it.

The third section considers the general subject of American investments in Mexico. The influence of the political situation, especially with reference to the fears of Mexicans that the capitalists would exert undue pressure, is detailed. The types of investment, direct at first and later largely converted into indirect, are pointed out, with the indication that American capital was principally devoted to railway construction, mining, and textile industries, with lesser amounts in other lines. This section ends with a survey of the effects of foreign investments on the Mexican national economy. The final section comprises a statement of the author's conclusions upon which he has based his major thesis.

The author has presented a valuable study emphasizing Mexican viewpoints, to which in some cases American readers will be inclined to take exception. However, the volume is a worthy contribution, which serves to throw light on the economic relations between the United States and Mexico during an important period of Mexican history.

ROSCOE R. HILL

Washington, D.C.

BOOKS RECEIVED

Adams, Leonard P. *Wartime Manpower Mobilization*. ("Cornell Studies in Industrial and Labor Relations," Vol. I.) Ithaca, N.Y.: Cornell University, 1951. Pp. xi+169.

Arnold, Bruno. *Die Grundlagen der Tarifpolitik fur den Nordostseekanal*. ("Kieler Studien," No. 20.) Kiel: Institut für Weltwirtschaft an der Universität Kiel, 1951. Pp. 75. DM. 5.

Beglinger, J.-F. *Les Conditions économiques de la paix*. Paris: Librairie Pichon-Auzias, 1947. Pp. 264.

Biehl, Max. *Das Zahlungsbilanzproblem der Vereinigten Staaten und Deutschlands Dollar-Ausfuhr*. Kiel: Institut für Weltwirtschaft an der Universität Kiel, 1951. Pp. 115.

Bouvier, Émile. *Neither Right nor Left in Labor Relations*. Montreal: Industrial Relations Section, University of Montreal, 1951. Pp. 203. $2.00.

Brodrick, Alan Houghton. *Danger Spot of Europe*. New York: Philosophical Library, 1951. Pp. 192. $3.75.

Brownell, Emery A. *Legal Aid in the United States*. Rochester, N.Y.: Lawyers Co-operative Publishing Co., 1951. Pp. xxiv+333. $4.50.

Cooke, C. A. *Corporation, Trust and Company: An Essay in Legal History*. Cambridge, Mass.: Harvard University Press, 1951. Pp. 206. $3.00.

Corry, J. A. *Democratic Government and Politics*. Toronto: University of Toronto Press, 1951. Pp. vii+691. $5.00.

Dangerfield, George. *The Era of Good Feelings*. New York: Harcourt, Brace & Co., 1951. Pp. xiv+525. $6.00.

Davis, Ralph Currier. *The Fundamentals of Top Management*. New York: Harper & Bros., 1951. Pp. xx+825. $6.00.

Dennett, Raymond, and Johnson, Joseph E. *Negotiating with the Russians*. Boston: World Peace Foundation, 1951. Pp. xi+310. $3.50.

Dobrovolsky, Sergei P. *Corporate Income Retention, 1915–43*. New York: National Bureau of Economic Research, 1951. Pp. xviii+122. $2.50.

Dorfman, Robert. *Application of Linear Programming to the Theory of the Firm*. Berkeley: University of California Press, 1951. Pp. ix+98. $3.50.

Due, John F. *The General Manufacturers Sales Tax in Canada*. ("Canadian Tax Papers," No. 3.) Toronto: Canadian Tax Foundation, 1951. Pp. xi+202. $2.00.

The Economic Almanac, 1951–1952. New York: National Industrial Conference Board, 1951. Pp. xii+663. $4.00 (paper).

The Economic Development of Guatemala. Washington, D.C.: International Bank for Reconstruction and Development, 1951. Pp. xviii+305. $5.00.

Fein, Erwin. *Bilanzbildsequenzen*. Bern: A. Francke AG. Verlag, 1951. Pp. 168. Swiss fr. 18.50.

Firth, Raymond. *Elements of Social Organization*. New York: Philosophical Library, 1951. Pp. vii+257. $5.75.

Fischer, John. *Master Plan U.S.A.: An Informal Report on America's Foreign Policy and the Men Who Make It*. New York: Harper & Bros., 1951. Pp. 253. $3.00.

Ford, P., and Bound, J. A. *Coastwise Shipping and the Small Ports*. Oxford: Basil Blackwell, 1951. Pp. 52. 10s. 6d.

Funfter und sechster Bericht der Deutschen Bundesregierung uber die Durchfuhrung des Marshallplans. Bonn: Bundesminister für den Marshallplan, 1951. Pp. 209.

Gates, William B., Jr. *Michigan Copper and Boston Dollars*. Cambridge, Mass.: Harvard University Press, 1951. Pp. xii+301. $5.00.

Gerloff, Wilhelm, and Neumark, Fritz. *Handbuch der Finanzwissenschaft*. Tübingen: Verlag J. C. B. Mohr, 1951. Pp. 159.

Gerschenkron, Alexander. *A Dollar Index of Soviet Machinery Output, 1927–28 to 1937*. Santa Monica, Calif.: RAND Corporation, 1951. Pp. v+357. Available on request.

Griffin, Clare E. *An Economic Approach to Antitrust Problems*. ("National Economic Problems," No. 441.) New York: American Enterprise Association, 1951. Pp. ix+95. $1.00.

Guitton, Henri. *L'Objet de l'économie politique*. Paris: Librairie Marcel Rivière et Cie, 1951. Pp. 196. Fr. 450.

Harris, Seymour (ed.). *Schumpeter: Social Scientist*. Cambridge, Mass.: Harvard University Press, 1951. Pp. viii+142. $4.00.

Hunold, Albert (ed.). *Vollbeschäftigung, Inflation und Planwirtschaft*. Zürich: Eugen Rentsch Verlag, 1951. Pp. 362. DM. 15.50.

International Bank for Reconstruction and Development. *The Economy of Turkey: An Analysis and Recommendation for a Development Program*. Washington, D.C.: International Bank for Reconstruction and Development, 1951. Pp. xxv+276. $5.00.

Jasny, Naum. *The Soviet Economy during the Plan Era*. Stanford, Calif.: Stanford University Press, 1951. Pp. xi+116. $2.00.

Keyes, Lucile Sheppard. *Federal Control of Entry into Air Transportation*. Cambridge, Mass.: Harvard University Press, 1951. Pp. 405. $6.00.

Korner, Emil. *The Law of Freedom as the Remedy for War and Poverty*. 2 vols. With an Introduction by Alfred Amonn. New York: British Book Centre, 1951. Pp. xxiii+562; vi+663. $9.50.

Lauersen, Walther. *Ausmass und Formen vertikaler Verflechtung in der Eisen- und Stahlindustrie der Vereinigten Staaten, Grossbritanniens, Frankreichs, Belgiens und Luxemburgs*. Kiel: Institut für Weltwirtschaft an der Universität Kiel, 1951. Pp. 197. M. 5.

Lloyd, William Bross, Jr. *Town Meeting for America*. New York: Ireland Press, 1951. Pp. 84. $2.00 (paper).

Long, Clarence D. *Manpower Needs and the Labor Supply*. ("National Economic Problems," No. 442.) New York: American Enterprise Association, 1951. Pp. 34. $0.50.

Miller, William (ed.). *Men in Business: Essays in the History of Entrepreneurship*. Cambridge, Mass.: Harvard University Press, 1952. Pp. ix+350. $5.00.

Morf, Otto. *Das Verhältnis von Wirtschaftstheorie und Wirtschaftsgeschichte bei Karl Marx*. Bern: A. Francke AG. Verlag, 1951. Pp. 133. Swiss fr. 12.50.

Muntz, T. G. A. *Turkey: Economic and Commercial Conditions in Turkey*. New York: Philosophical Library, 1951. Pp. x+194. $4.75.

Nicholls, William H. *Price Policies in the Cigarette Industry*. Nashville: Vanderbilt University Press, 1951. Pp. xix+444. $6.00.

Neblén, Göran. *The Problem of Summation in Economic Science*. Lund, Sweden: C. W. K. Gleerup, 1951. Pp. xii+289.

Okun, S. B. *The Russian-American Company*. Cambridge, Mass.: Harvard University Press, 1951. Pp. vii+411. $4.50.

Pankhurst, E. Sylvia. *Ex-Italian Somaliland*. New York: Philosophical Library, 1951. Pp. 460. $7.50.

Penrose, Edith. *The Economics of the International Patent System*. Baltimore: Johns Hopkins Press, 1951. Pp. xv+247. $4.00.

Perry, J. Harvey. *Taxation in Canada*. Toronto: University of Toronto Press, 1951. Pp. xiii+409. $6.00.

Pfeiffer, Gerhard. *Strukturwandlungen und Nachkriegsprobleme der Wirtschaft Belgiens*. ("Kieler Studien," No. 19.) Kiel: Institut für Weltwirtschaft an der Universität Kiel, 1951. Pp. 112. DM. 8.

Ploscowe, Morris. *Sex and the Law*. New York: Prentice-Hall, Inc., 1951. Pp. x+310. $3.95.

Salin, Edgar. *Geschichte der Volkswirtschaftslehre*. Bern: A. Francke AG. Verlag, 1951. Pp. 205. Swiss fr. 10.80.

Schweng, L. D. *Economic Planning in Hungary since 1938*. New York: Mid-European Studies Center, 1951. Pp. v+80.

Sraffa, Piero, and Dobb, M. H. (eds.). *The Works and Correspondence of David Ricardo*, Vols. III and IV. New York: Cambridge University Press, 1951. Pp. viii+437; vi+422. $4.75 each vol.

Stern, Siegfried. *The United States in International Banking*. New York: Columbia University Press, 1951. Pp. xiii+447. $5.25.

Tableman, Betty. *Governmental Organization in Metropolitan Areas*. Ann Arbor, Mich.: Institute of Public Administration, University of Michigan. Pp. vii+203. $2.50.

Taxation Statistics, 1951. Ottawa, Canada: Taxation Division, Department of National Revenue, 1951. Pp. 143. $0.50.

Thünen, Johann Heinrich von. *Ausgewählte Texte*. Meisenheim: Westkulturverlag Anton Hain, 1951. Pp. 312. DM. 29.

Truslow, Francis Adams, *et al*. *Report on Cuba: Findings and Recommendations of an Economic and Technical Mission*. Washington, D.C.: International Bank for Reconstruction and Development, 1951. Pp. xxiv+1049. $7.50.

Universities–National Bureau Committee for Economic Research. *Conference on Business Cycles*. New York: National Bureau of Economic Research, 1951. Pp. xii+433. $6.00.

White, William Russell. *Leadership*. 2 vols. Boston: Meador Press, 1951. Pp. xliv+2238. $20.00.

Wilson, Howard. *Universities and World Affairs*. New York: Carnegie Endowment for International Peace, 1951. Pp. 88. $1.00.

Zinkin, Maurice. *Asia and the West*. New York: Institute of Pacific Relations, 1951. Pp. xii+300. $3.50.

THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE

The Quarterly Journal of the Canadian Political Science Association

Vol. XVII, No. 4 CONTENTS *November, 1951*

Mr. King and Parliamentary Government . *Eugene Forsey*

Problems of Economic and Social Change in Guatemala *G. E. Britnell*

The Economic Problem of the Newfoundland Fisheries *H. B. Mayo*

Disequilibrium-Pricing versus Inconsistent Preferences in Unemployment Theory . . . . . *Roger Dehem*

Progress, Poverty, and Inter-Regional Disequilibrium *V. C. Fowke*

Some Notes on the Economics of Transportation *J. A. McDonald*

Co-operative Central Banking in Canada . *J. T. Croteau*

Notes and Memoranda, Review Articles, Reviews, Bibliography of Canadian Economics

Annual subscriptions, $4.00

Single copies, $1.00

Subscriptions may be sent to

THE UNIVERSITY OF TORONTO PRESS

TORONTO, CANADA

ECONOMICA

ECONOMICA is published quarterly by the London School of Economics and Political Science, in February, May, August, and November, and is devoted to research in the fields of Economics, Economic History and Statistics.

The price of ECONOMICA (New Series) is 8*s*. 6*d*. ($1.33) a number or £1.5*s*. ($3.71) per annum, post free. Subscriptions and enquiries should be addressed to Miss B. Barron, Publications Department, London School of Economics, Houghton Street, London, W.C. 2, England.

BOOKS ON THE AMERICAN SCENE

HEAVENS ON EARTH:
Utopian Communities in America, 1680-1880

BY MARK HOLLOWAY

A DETAILED history of the communal settlements of the period. Covers fully curious customs, rituals, sexual behavior, peculiar forms of dress, plus discussions on tolerance, inventions, theories, and historical data. *Illustrated.* $4.75

EARLY AMERICAN POETS
Selected, with an Introduction

BY LOUIS UNTERMEYER

THIS ANTHOLOGY reveals the spirit, scenes, and turbulence of early America expressed by accomplished poets, many of whom are forgotten to all but the literary historian. $5.00

THE AMERICAN ECONOMY, 1860-1940

BY A. J. YOUNGSON BROWN

A COMPREHENSIVE account of the grand *milieu* of the economic and social ideas affecting U.S. rise to world economic supremacy. Covers: Railroads; Development of Industry; Trusts & Government; Agriculture; Money; Tariff Policy; Labor; Depression; New Deal; etc., etc. *Graphs and Charts.* $4.75

THE SIBERIAN FIASCO

BY CLARENCE A. MANNING

THE MILITARY intervention of the U.S. in Siberia in 1918, which failed completely in its object of aiding the Russian people to establish a free and democratic government, is evaluated in the light of present events. *Illustrated.* $3.75

Library Publishers

8 West 40th Street New York 18, N.Y.

The American Economic Review

Volume XLI **CONTENTS** **December, 1951**

Knut Wicksell—A Centennial Evaluation . . . . . *C. G. Uhr*

Issues of Business Cycle Theory . . . . . *S. S. Alexander*

Gold in Soviet Economic Theory and Policies . . . . . *Alfred Zauberman*

The Nature and Significance of Price Leadership . . . . . *J. W. Markham*

Depreciation Policies and Investment Decisions . . . . . *S. P. Dobrovolsky*

The Aluminum Case . . . . . *Walter Adams*

Little's Critique of Welfare Economics . . . . . *K. J. Arrow*

Reviews of Books, Titles of New Books, Periodicals, Notes

The AMERICAN ECONOMIC REVIEW, a quarterly, is the official publication of the American Economic Association and is sent to all members. The annual dues are $6.00. Address editorial communications to Dr. Paul T. Homan, Editor, American Economic Review, University of California, 325 Bus. Admin. and Econ. Bldg., 405 Hilgard Avenue, Los Angeles 24, California; for information concerning other publications and activities of the Association, communicate with the Secretary-Treasurer, Dr. James Washington Bell, American Economic Association, Northwestern University, Evanston, Illinois. Send for information booklet.

THE

QUARTERLY JOURNAL OF ECONOMICS

FOUNDED 1886

Vol. LXVI CONTENTS FOR FEBRUARY, 1952 No. 1

Compulsory Health Insurance: The Economic Issues
Rita Ricardo Campbell and W. Glenn Campbell
The Theory of Business Cycles *Rendigs Fels*
Taxation and Incentive in Mobilization
Gerhard Colm
The Quantitative Study of Factors Determining Business Decisions
George Katona and James N. Morgan
The New Welfare Economics and Gains in International Trade *Robert Baldwin*
Notes, Discussions, and Reviews
Currency Appreciation as an Anti-Inflationary Device:
Comment *R. F. Harrod*
Further Comment *Albert O. Hirschman*
Final Comment *Randall Hinshaw*
Fellner on Competition Among the Few
K. W. Rothschild

Edited by E. H. CHAMBERLIN for the Department of Economics, Harvard University.

$1.25 per copy, $5.00 a year, 3 years $14.00. Special Student Rate, $3.00 a year.

Order From

THE HARVARD UNIVERSITY PRESS

Cambridge, Mass.

Political Realism and Political Idealism

by John H. Herz

Awarded the Woodrow Wilson Award for 1951 as the "best publication of the year in the field of government and democracy."

Realism and idealism are the two extremes which have traditionally characterized political theories and the motives for political action. Professor Herz shows how an adequate understanding of the history and nature of this opposition can provide us with intelligent principles for directing political action. *288 pages. $3.75*

University of Chicago Press

5750 Ellis Avenue

Chicago 37, Illinois

Outstanding McGRAW-HILL Books

ELEMENTS OF STATISTICAL METHOD. New 3rd Edition

By Albert E. Waugh, University of Connecticut. Ready in April

A revision of this outstanding book. While changes have been made in the new edition, the text is still designed to introduce the student to statistical concepts and nomenclature and to encourage him to think in statistical terms. Every effort is made to keep the discussion at the beginner's level and to present basic ideas in such a way that the student will find it easy to continue under his own power.

FUNDAMENTALS OF ECONOMICS. New 2nd Edition

By Myron H. Ulberset, Elgin F. Hunt, and Charles V. Kinter, Northwestern University. Ready in April

Revised in order to bring material up to date and to improve organization, the second edition of this well-known text covers the nature of economics and an industrial economy, production, consumption, money, national income, etc. Good organization and clarity of style make it exceptionally teachable. Problems and review questions accompany each chapter.

THE STOCK MARKET. New 3rd Edition

By Charles Amos Dice, Ohio State University, and Wilfred John Eiteman, University of Michigan. Ready in February

Offers a factual description of the organization and operation of the security markets, relates the history of these markets, and creates a greater appreciation of the essential functions that they perform for society. All recent developments in the field are included.

TRANSPORTATION. New 2nd Edition

By Truman C. Bigham and Merrill J. Roberts, University of Florida. Ready in April

A functional approach with emphasis on the common principles which apply to all agencies, this text is primarily concerned with the fundamental economic principles which govern the industry itself and the relationships between the transportation function and the entire economy. All types of transportation are covered. The text provides a basis for the appraisal of existing and future public policies regarding transportation.

Send for copies on approval

McGRAW-HILL BOOK COMPANY, INC.

330 WEST 42nd STREET, NEW YORK 18, N. Y.

Time for Courtesy

It's nice to pick up the telephone and hear an alert, friendly voice come over the wires.

It may be the familiar "Voice with a Smile" of the telephone operator. Or a friend or business customer. Or a stranger you're meeting — and judging — for the first time by telephone.

Any time is a good time for telephone courtesy. But right now, when the rush is on and minutes are scarce, it is doubly appreciated.

All 'round the clock is seven time and temper-and helps everybody get more things done, more quickly.

BELL TELEPHONE SYSTEM